

Concept of the exclusion of the blind area

In Japan, it is predicted that, among accidents recorded during 8 years in the 1990s, five fatal accidents occurred at the time of the vehicle's start due to a blind area.

In all these five accidents, the vehicle part causing damage to the victim was the left rear wheel (on the passenger's side). Hence, we propose to specify the field of vision such that the driver, when starting the vehicle, can notice the object and stop the vehicle before it comes in contact with the rear wheel even if there is some blind area.

Based on the result of an experiment using the actual vehicle driven by a general driver, we determined the blind area, X , and the distance from when the object appearing from the blind area is noticed to when the vehicle is stopped, L_s , as follows:

$$X=0.292L_s-0.203$$

In order to prevent the object from being involved in an accident, L_s should be shorter than the distance from the rearmost edge of the blind area to the edge of the rear wheel, L , and the blind area, X , needs to be set with $L > L_s$.

Experimental method

Conducted by JARI(Japan Automobile Research Institute)

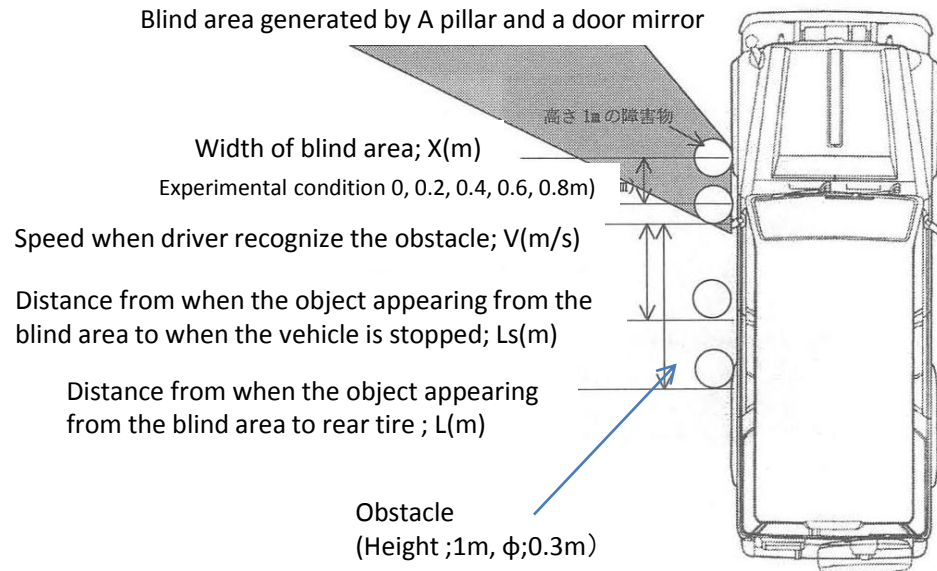
Participant; 14 males, 16 females (20-60 year-old)

Experiment condition; Width of blind area 0, 0.2, 0.4, 0.6, 0.8m

Measurement;

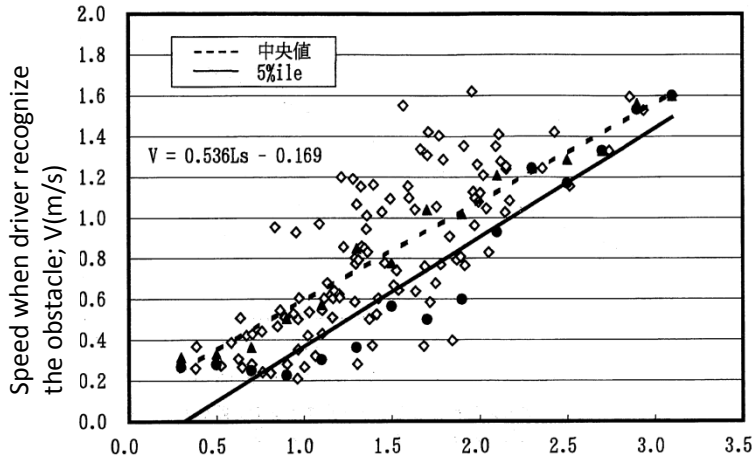
V (m/s); Speed when driver recognize the obstacle

L_s (m); Distance from when the object appearing from the blind area to when the vehicle is stopped;



Vehicle used in this experiment

Experimental results



Distance when driver recognize the object appearing from the blind area to when the vehicle is stopped, $L_s(m)$

