

# **The Effects of the Number of Brake Lights Inferring Difference in Light Intensity on Reaction Time of the Following Driver**

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More than six million crashes were reported by the police in 2015. Almost thirty percent of the accidents in the U.S. are rear end collisions. Collisions from the rear are not only dangerous to both vehicles' drivers and passengers, but can reach over ten thousand dollars in expense. This projected studied the effects of the number of brake lights, inferring difference of light intensity, on the reaction time of the following driver. According to a past study done by the National Highway Traffic Safety Administration and conducted by Virginia Tech's Transportation Institute as the number of brake lights inferring difference of intensity increases, then the reaction time of the following driver will decrease. A board was created to simulate the brake lights of a car. On the board there were two sets of brake lights, one set with one light bulb and one set with six light bulbs in each light. Test subjects were asked to react to either brakes, but were not explained the difference between the sets. In a pre-made random order used on all test subjects, each subject reacted ten times to each brake light set. The statistics applied to the data indicated there was a significant difference between the sets of brake lights, with the higher intensity six light bulb brakes causing a quicker reaction time. Therefore, the hypothesis was supported.