Capitol Graduate Research Summit

DECISION–MAKING AT INTERSECTIONS

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Over 90 percent of automobile crashes are primarily due to driver behavior. According to 2015 traffic crash data in the state of Kansas, the number one contributing circumstance of crashes was that the driver failed to give their full time and attention. Accidents regarding the vehicle and driver accounted for approximately 30 % of car crashes in the state of Kansas in 2015. Therefore, as vehicles become increasingly automated, the amount of car crashes related to vehicles may increase in the future, if they are not appropriately calibrated. The current study was designed to assess perceptions of trust and risk by asking individuals to make braking judgements with and without an automated braking system within the context of a driver approaching a yellow light at an intersection. The hypotheses were tested with a Qualtrics survey, where drivers viewed images that portrayed a car at various distances from the light. Each image was paired with a Likert–style question to assess drivers' endorsement of braking at the point depicted in the figure. The results suggested that participants had a bias to endorse braking more strongly when imaging driving a car without automation. By understanding how people's behavior affects their trust in automated systems, it can aid in creating an appropriate reliance, which could reduce crash rates and increase safety in the state of Kansas.