Exploring Drivers\' Behavior and Cognition in a Driving Simulator with Eye-Tracking *by*

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Intersection collision warning systems (ICWSs) have the potential to significantly improve driving and pedestrian safety. When drivers receive a warning of an upcoming pedestrian or vehicle, they are more likely to stop and thus prevent collision. Recent research shows that auditory stimuli are more effective than visual stimuli when it comes to warning modality (Bella & Silvestri, 2017). Thanks to driving simulators, driver behavior metrics-- and more recently-- driver attention and cognition captured via eye-tracking (e.g. Herwitz & Monsere, 2013)-- can be measured. To date, however, no study has examined driver cognition simultaneously while receiving an ICWS warning. The purpose of this study is to contribute to the field the role of auditory ICWSs versus no warning when pedestrians are present in a driving simulator. We will study drivers' behavioral reaction as well as attentional capacities thanks to eye-tracking technology.