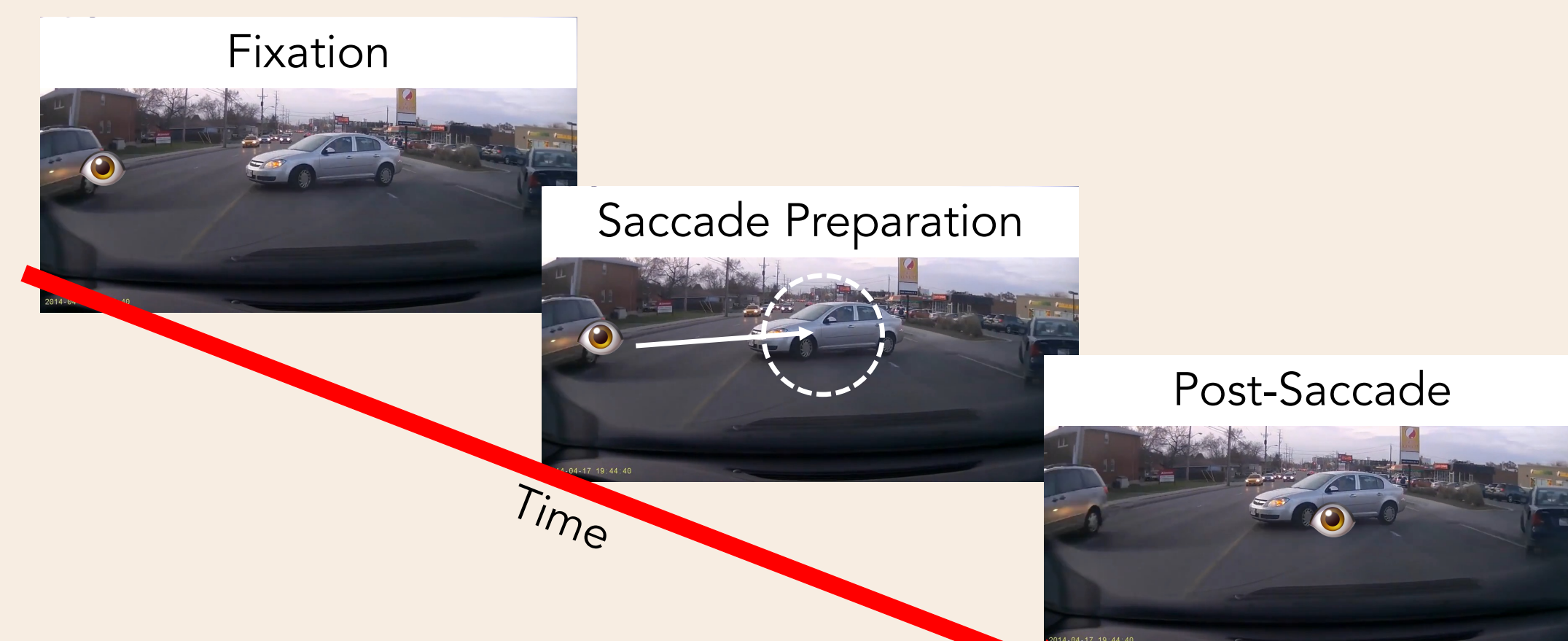


Background

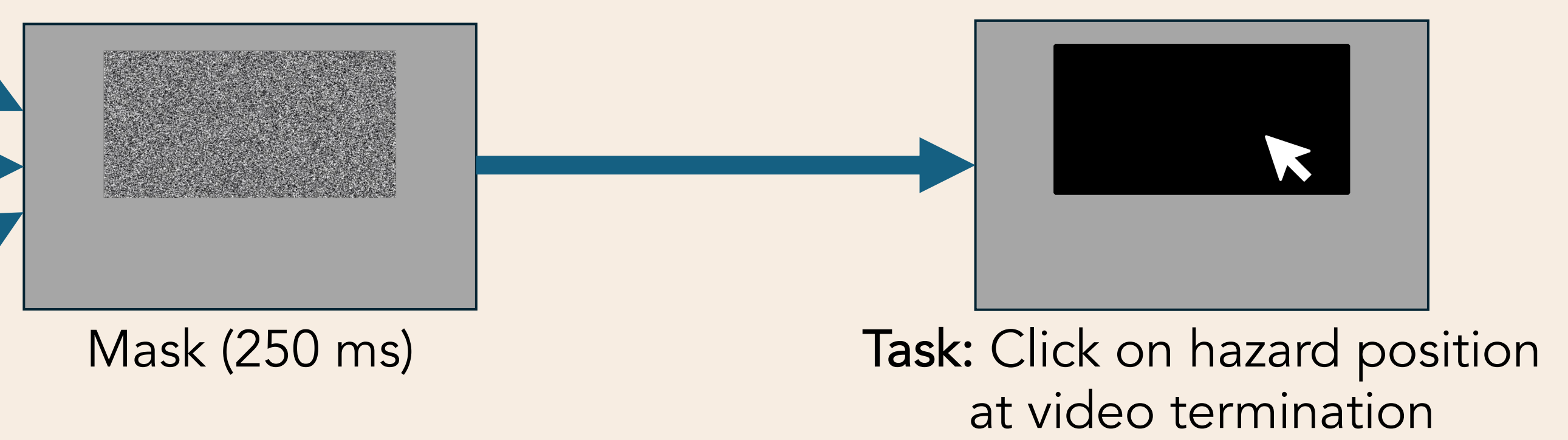
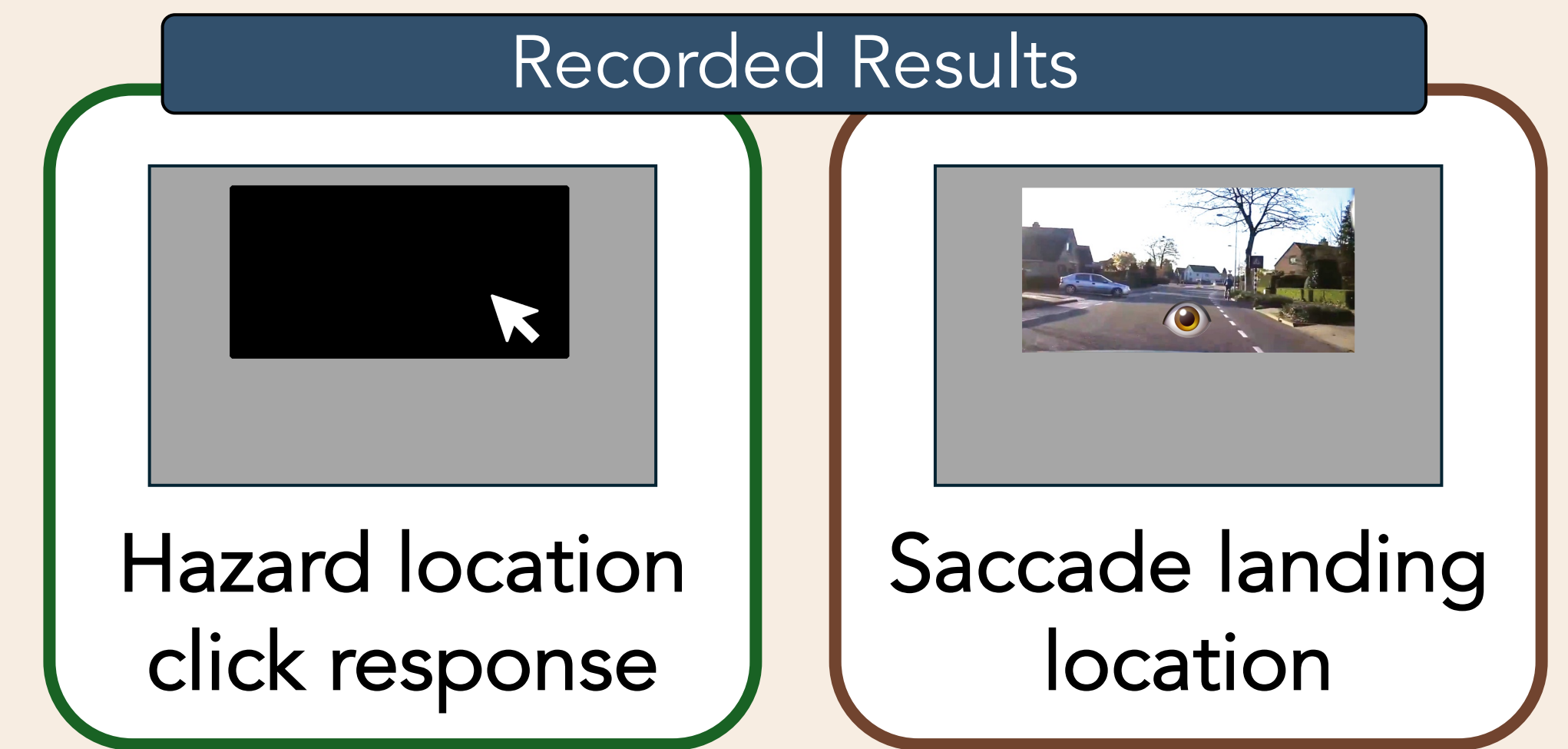
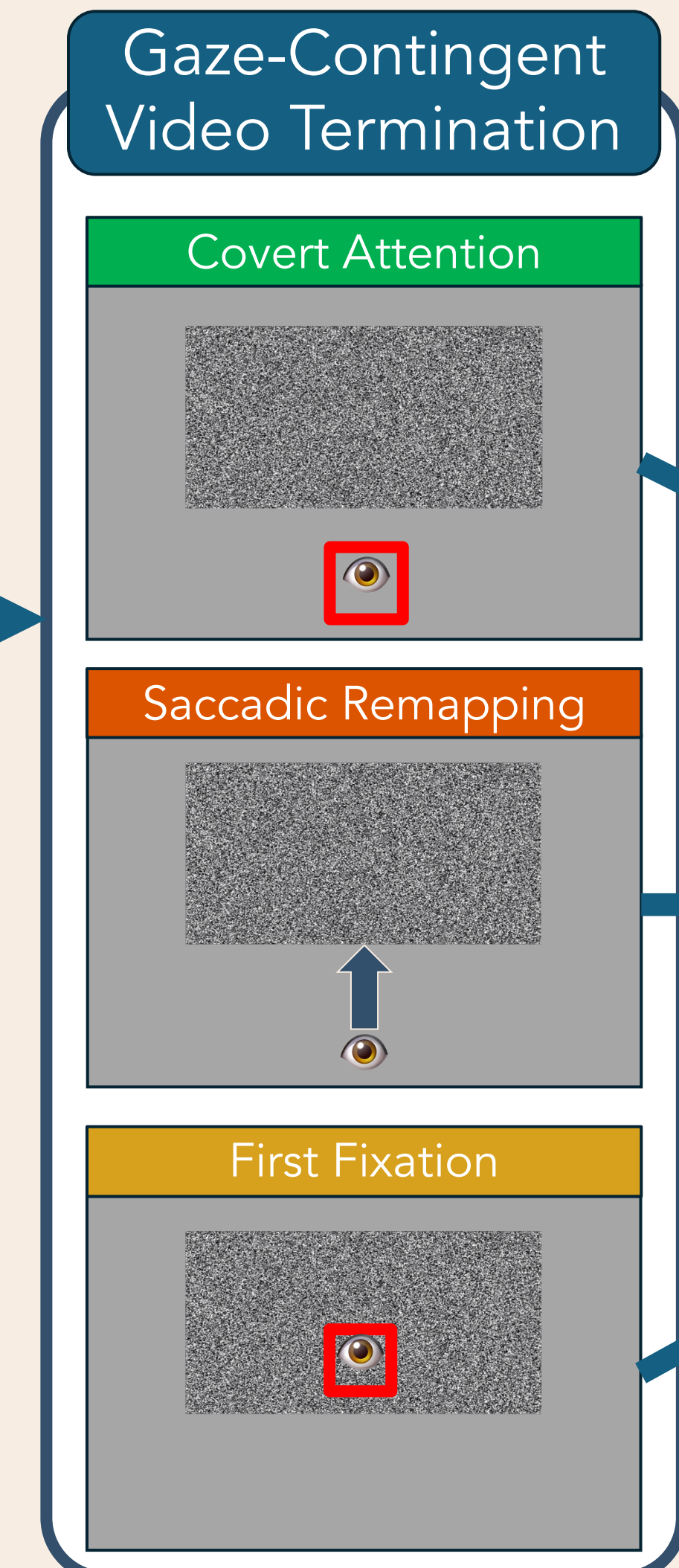
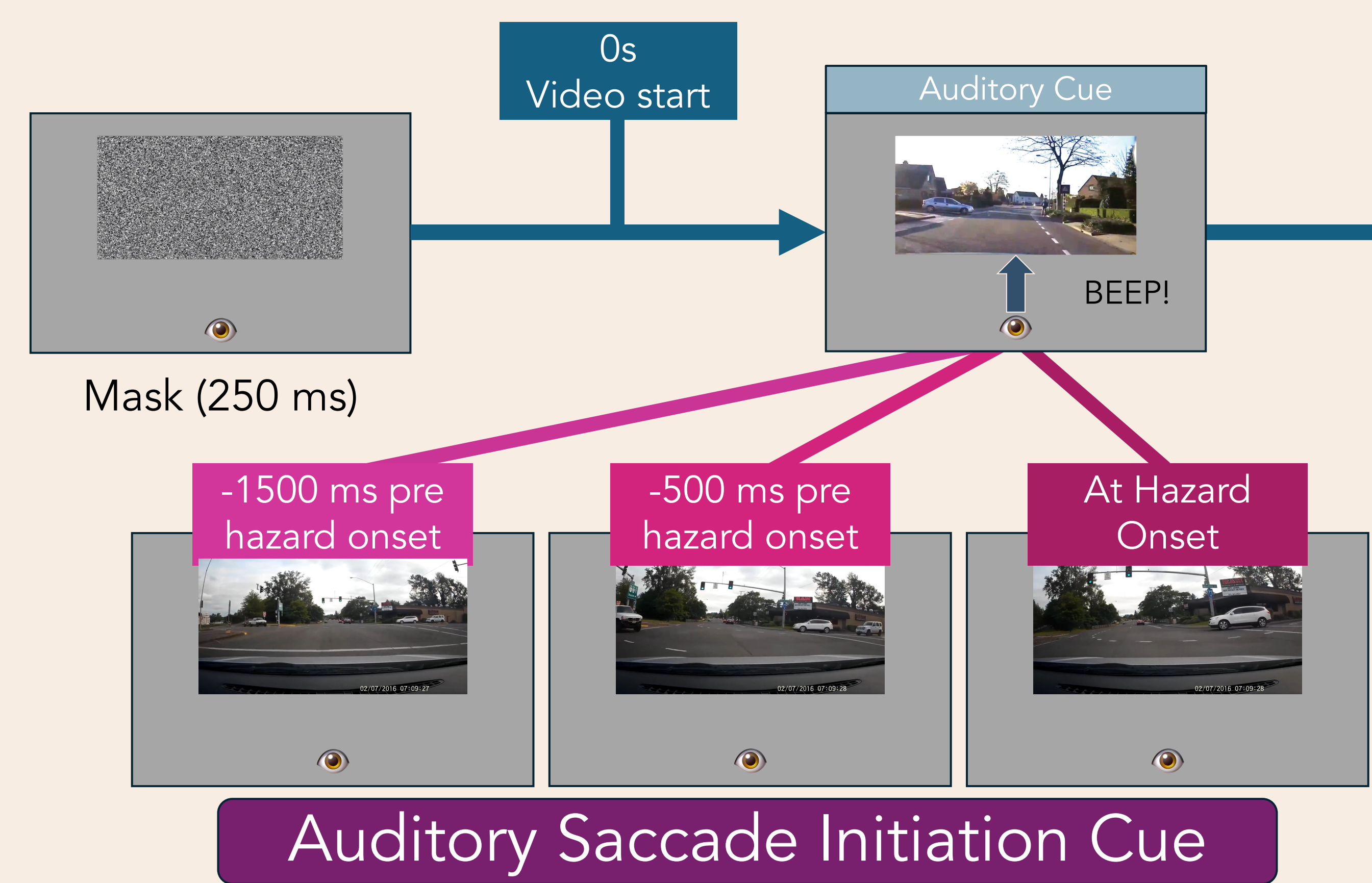
- Saccadic remapping provides precise information about the target of an impending saccade prior to eye-movement
- Previous studies¹ with static stimuli have shown that remapping provides more object-level compared to covert attention, but less compared to fixation.



Q: Does saccadic remapping operate in dynamic natural scenes?

Methods

Trial Procedure: Hazard Localization in Dynamic Road Scenes

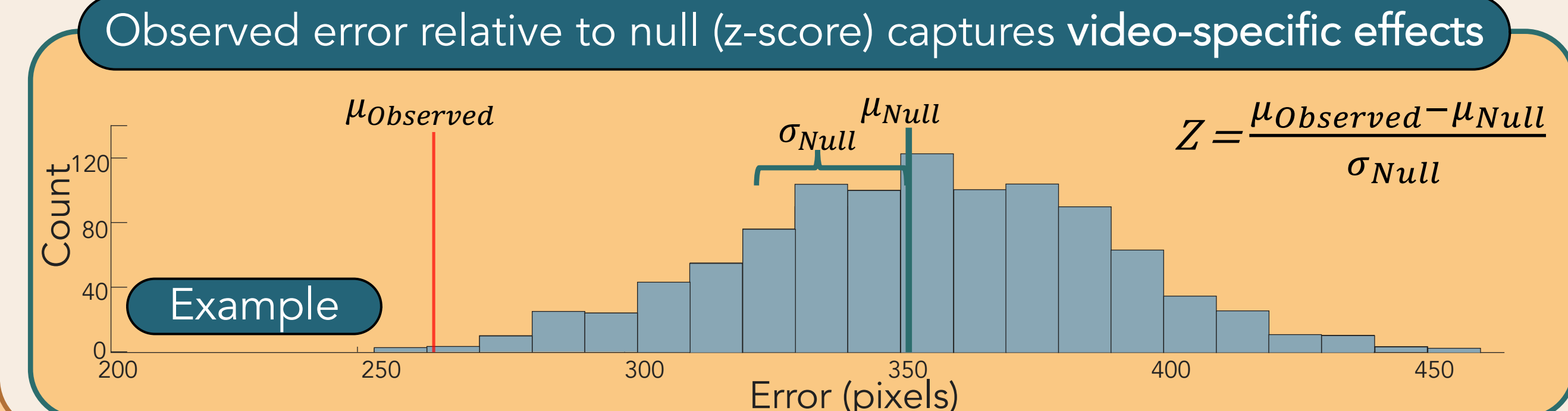
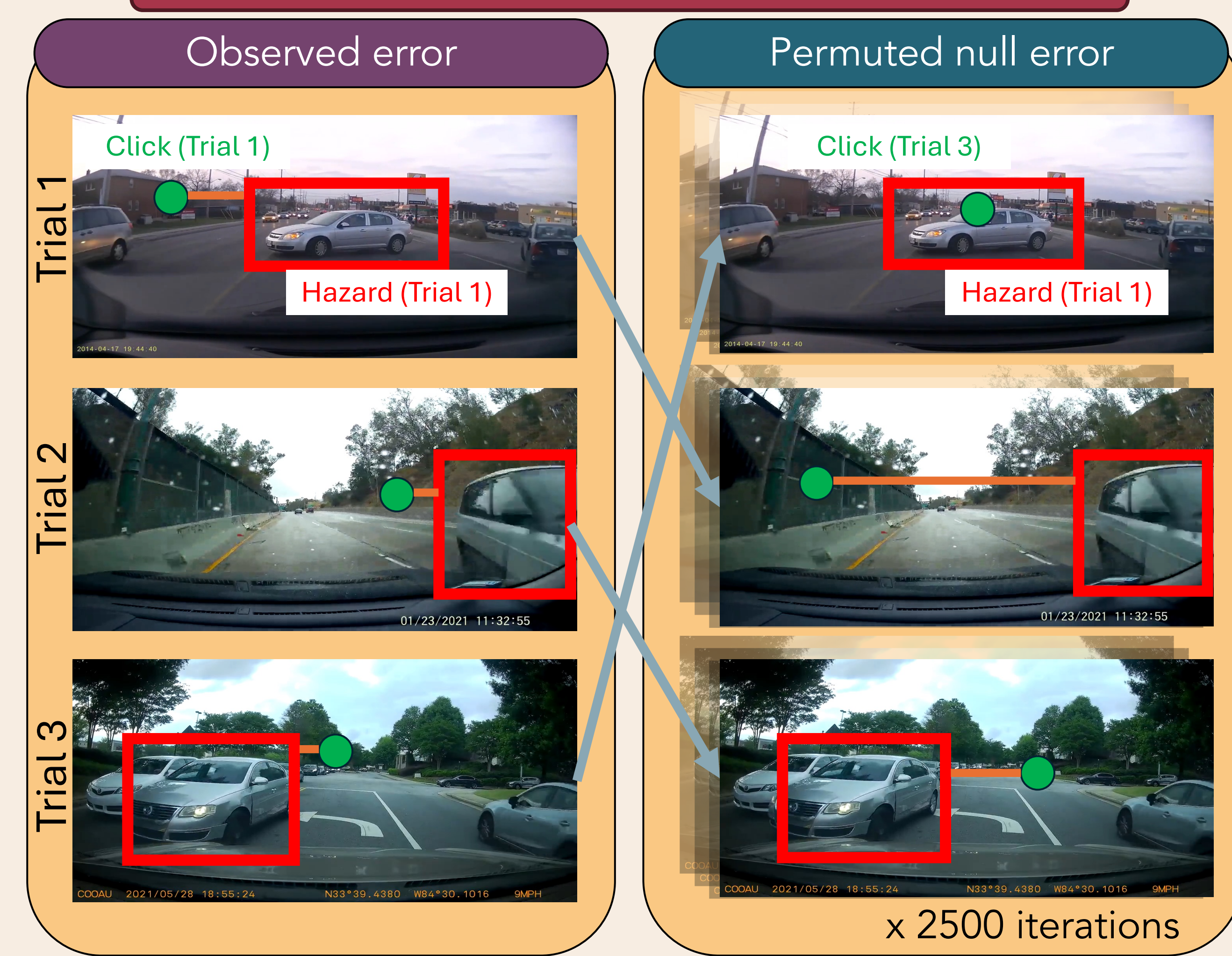


Hazard Examples

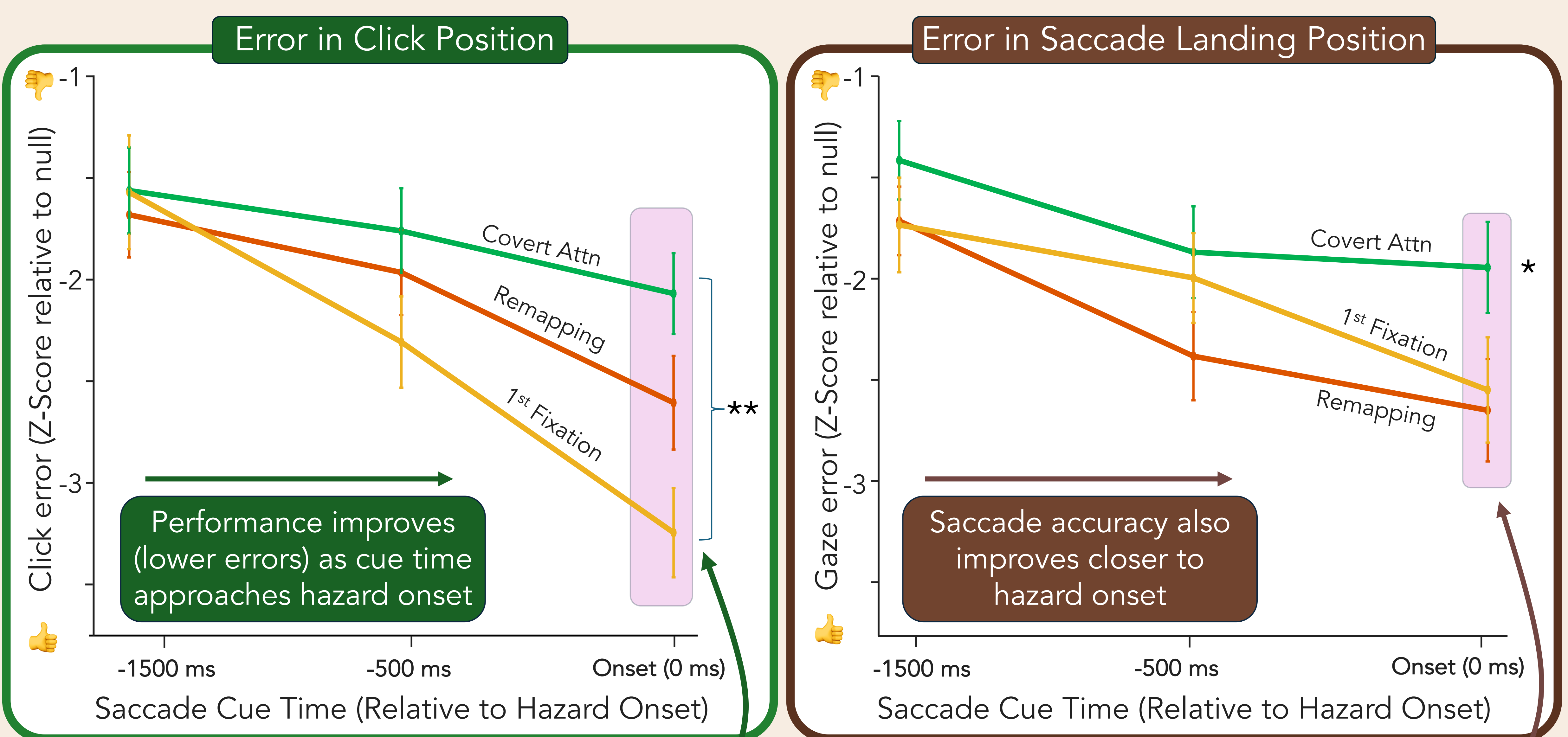
Road hazard stimuli²

N = 27

Accuracy calculation



Accuracy across conditions



At hazard onset, click responses show differentiation between covert attention, remapping, and fixation.

Similar errors for the remapping and first fixation conditions suggest comparable saccade planning.

Conclusions

- Saccadic remapping in dynamic scenes is discriminable from covert attention and direct gaze
- Information acquired during remapping provides task relevant information at a level between covert attention and fixation
- What's next? How spatially specific is the effect?
- Does scene information modulate performance?



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Acknowledgments: This work was supported by an NSERC Discovery Grant to Dr. Benjamin Wolfe.
 References: [1] Wolfe, B. A., & Whitney, D., Perception & Psychophysics (2015).
 [2] Song, J., Kosovicheva, A., Wolfe, B., Behav Res (2024).