



and eye movements

Enhanced lane keeping **V**during driver distraction: the effect of lead car presence

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Acknowledgements



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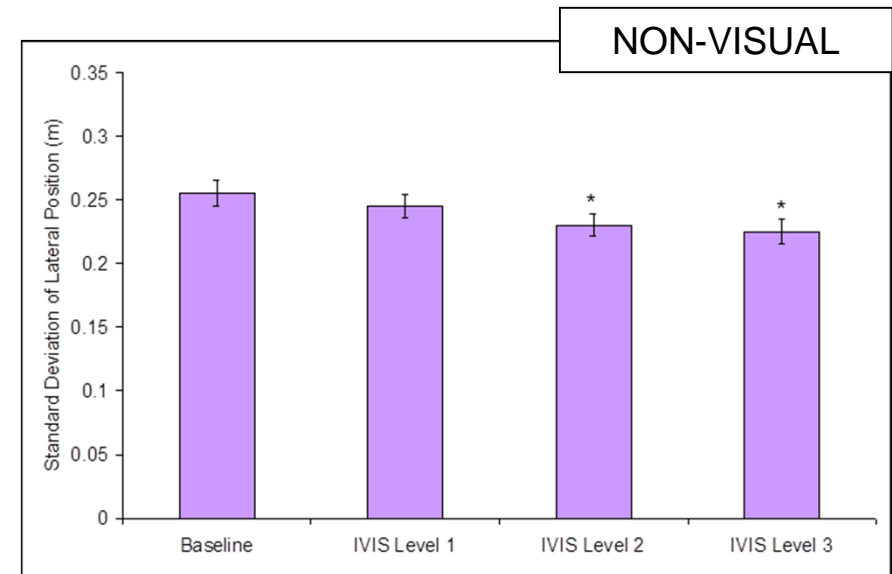
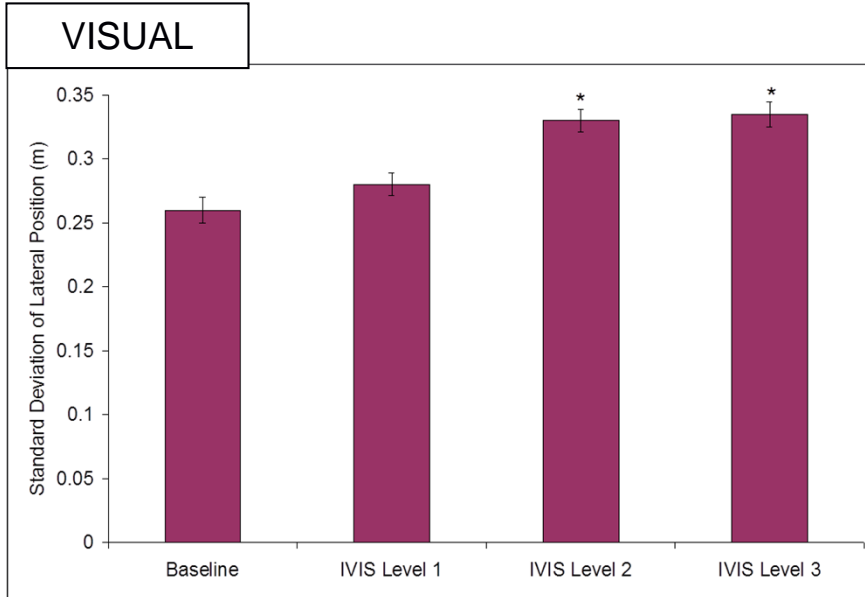
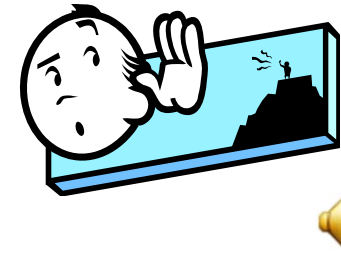
- Nick Herbert
- Ty Lowe
- Michael Daly
- Tony Horrobin
- Hamish Jamson



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Driver Distraction Research

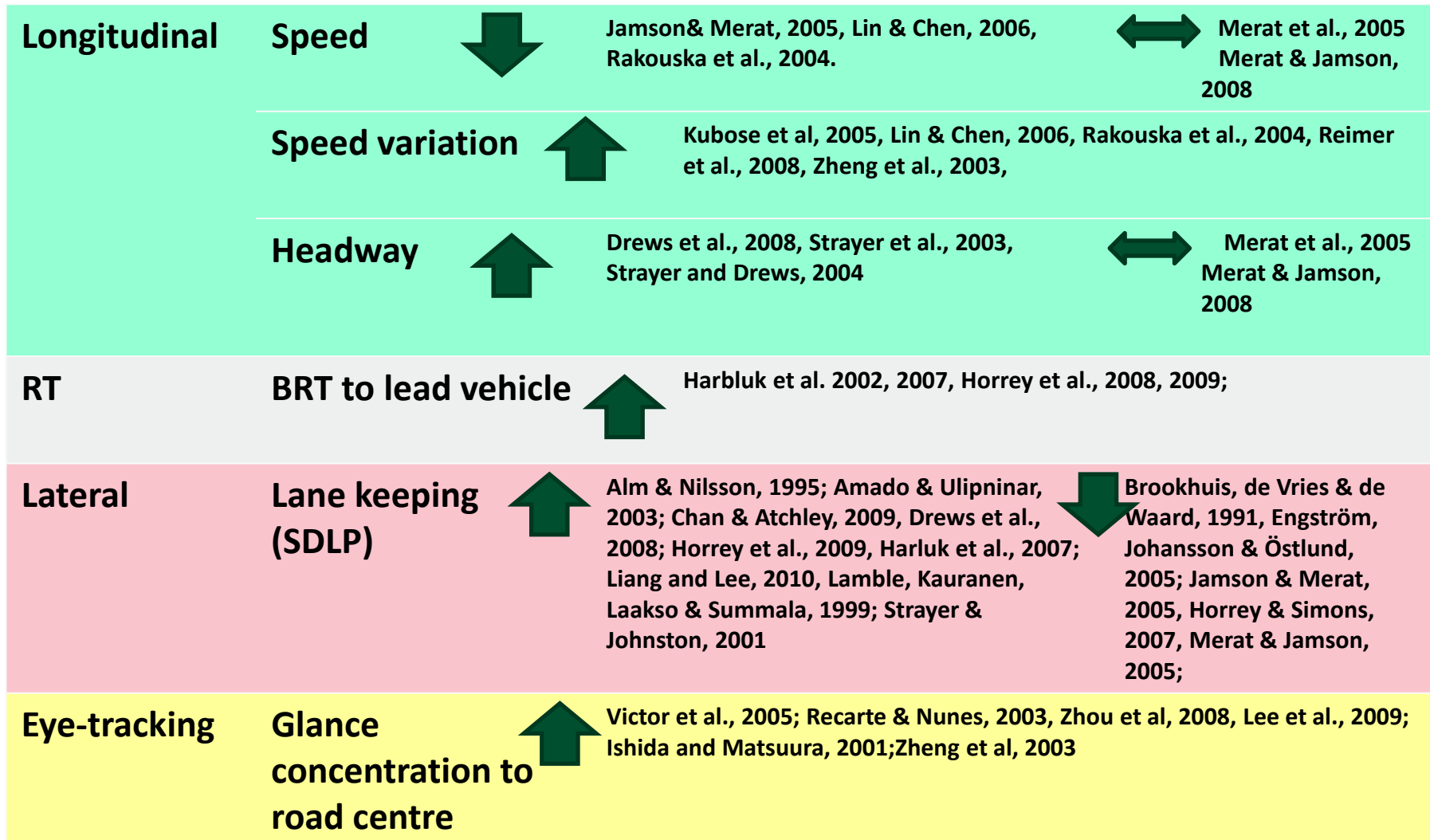
*Effects of visual and non-visual distraction on driving are **NOT** the same*



Non-visual tasks and driving performance/driving behaviour



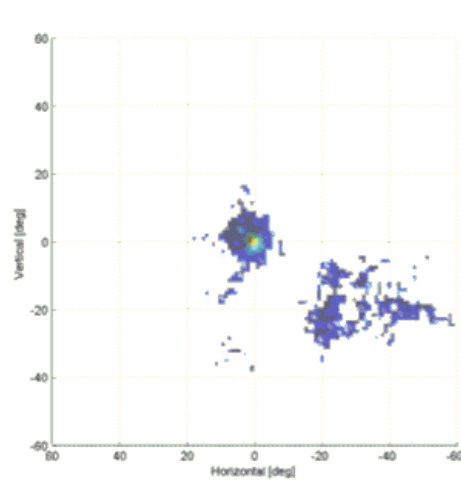
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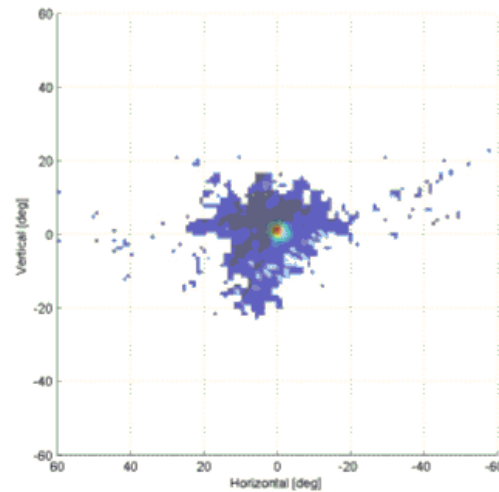
Gaze concentration



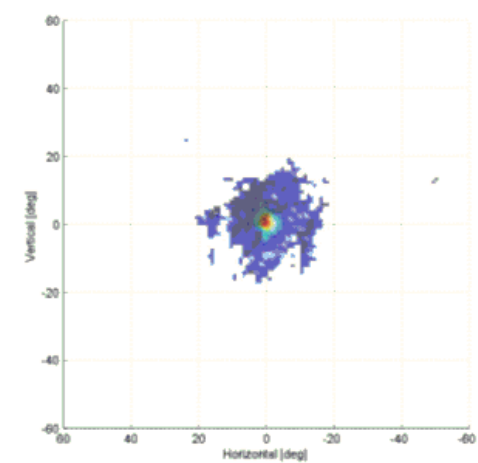
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Visual task SLv3 Mwy Field



Visual task baseline Mwy Field



Auditory task SLv3 Mwy Field

Victor et al., 2005

Other relevant findings



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Exp Brain Res
DOI 10.1007/s00221-010-2321-4

RESEARCH ARTICLE

Using vision to control locomotion: looking where you want to go

R. M. Wilkie · G. K. Kountouriotis · N. Merat ·
J. P. Wann



Interdisziplinäres Zentrum für Verkehrswissenschaften
an der Universität Würzburg
Wissenschaftliche Leitung:
Prof. Dr. H.-P. Krüger

The effect of car-following on lateral guidance during cognitive load – A study conducted in the multi-driver simulation

Dominik Mühlbacher & Hans-Peter Krüger
Center for Traffic Sciences (IZVW), University of Würzburg

The Impact of Eye Movements and Cognitive Workload on Lateral Position Variability in Driving

Joel M. Cooper, Nathan Medeiros-Ward, and David L. Strayer,
University of Utah, Salt Lake City

Logan and Crump (2009)

of this work was to
teen eye movements
taining lane position

INTRODUCTION

A driver's ability to maintain a central lane position is widely considered to be a simple

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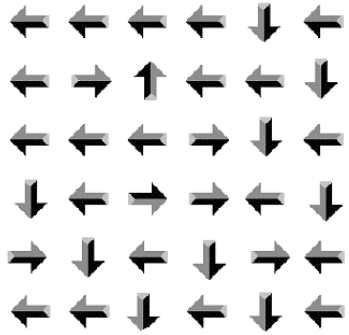


Current study



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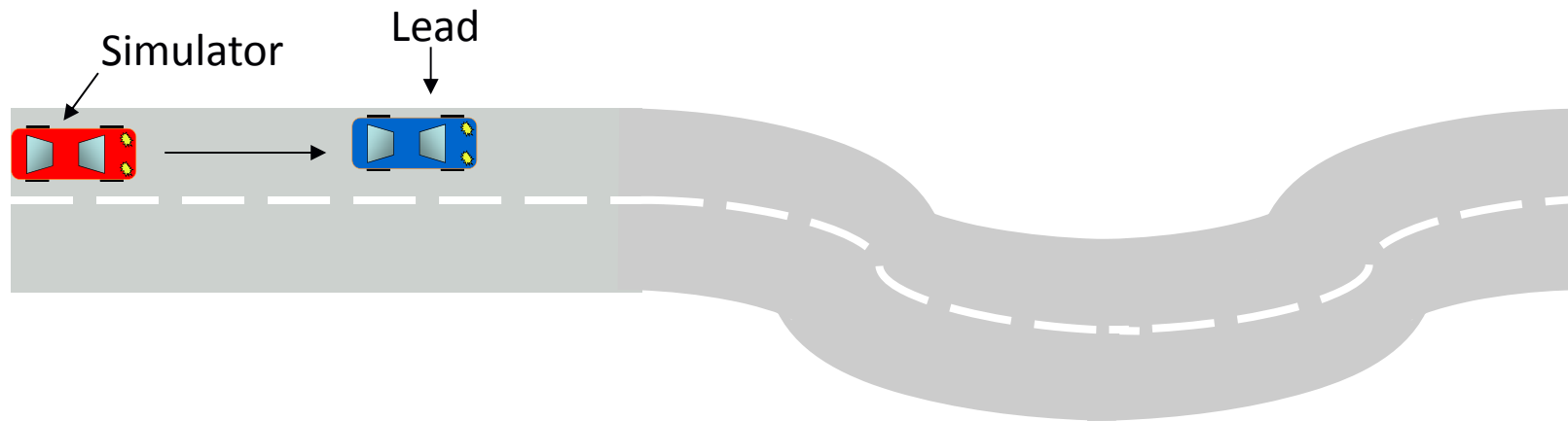
721...714, 707,
700, 693.....



Current Study



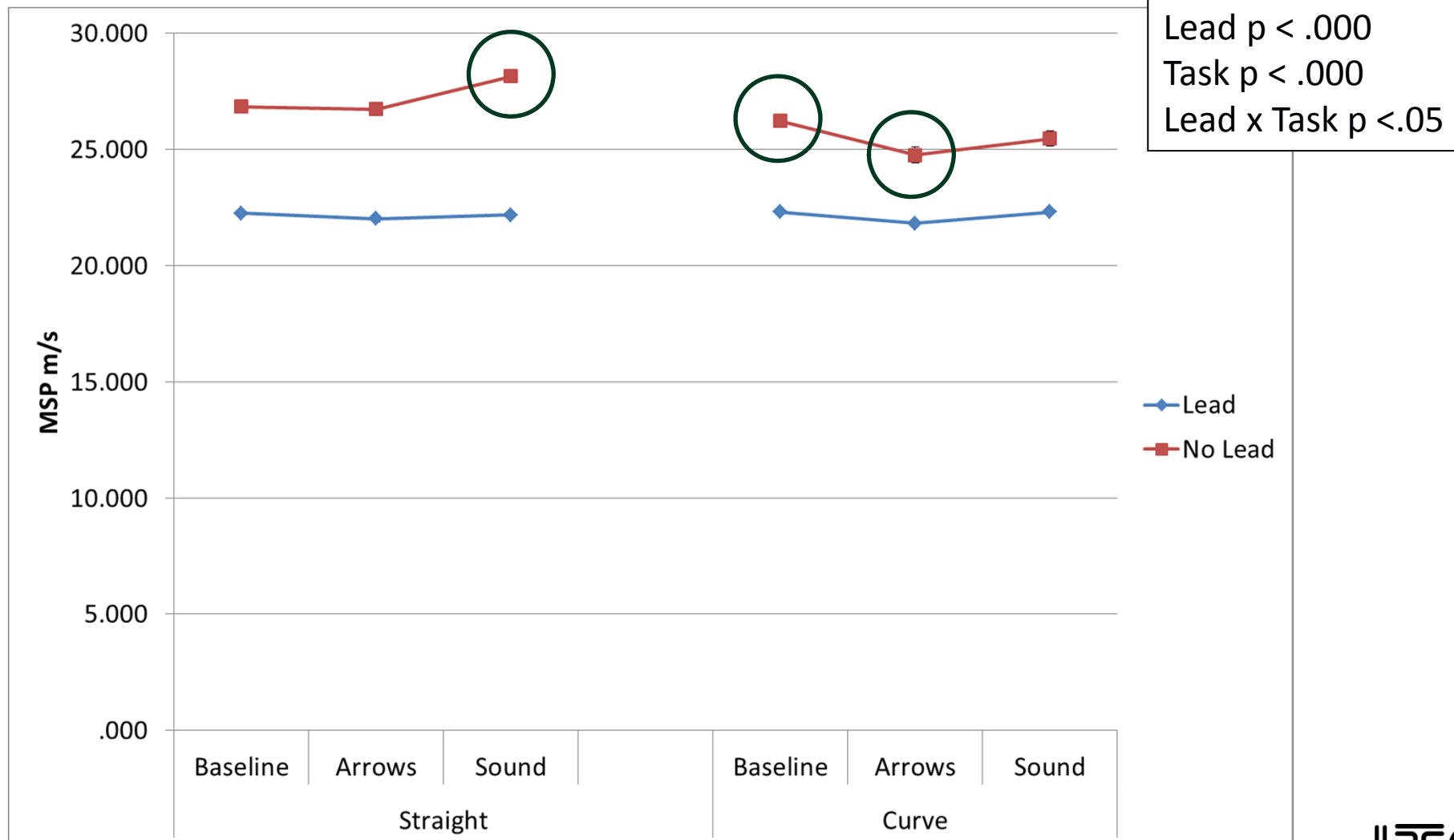
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Mean Speed



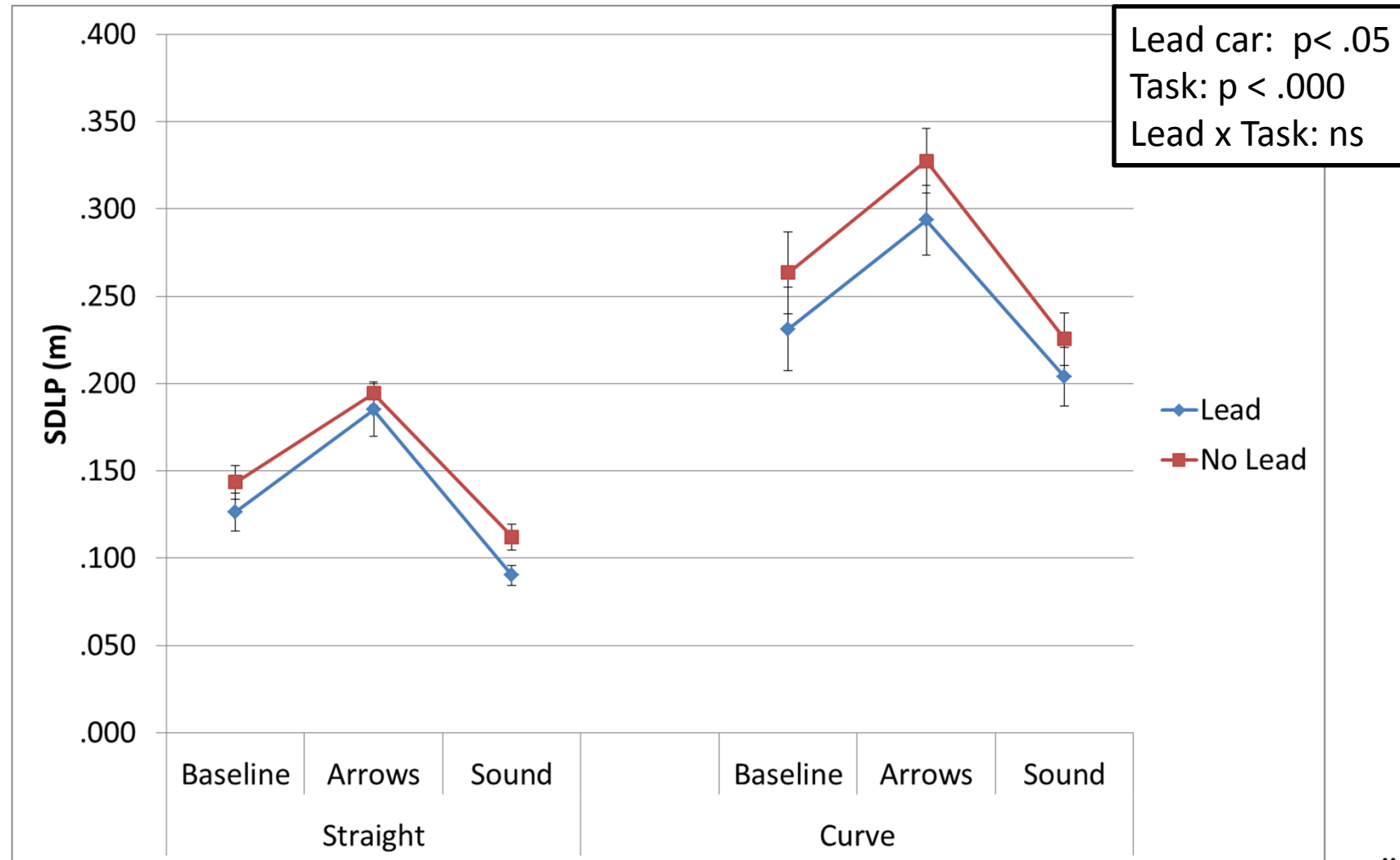
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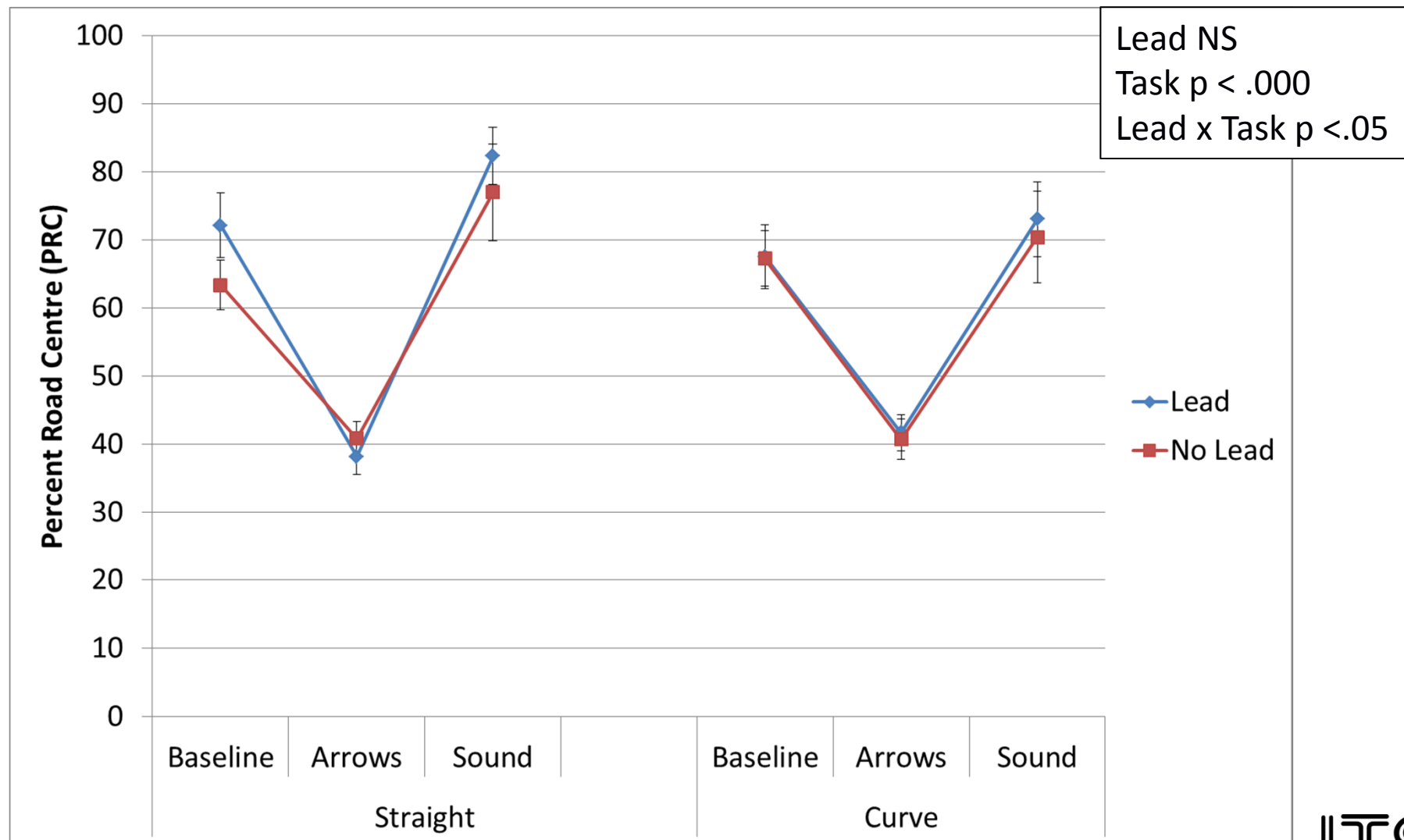


Lateral Control



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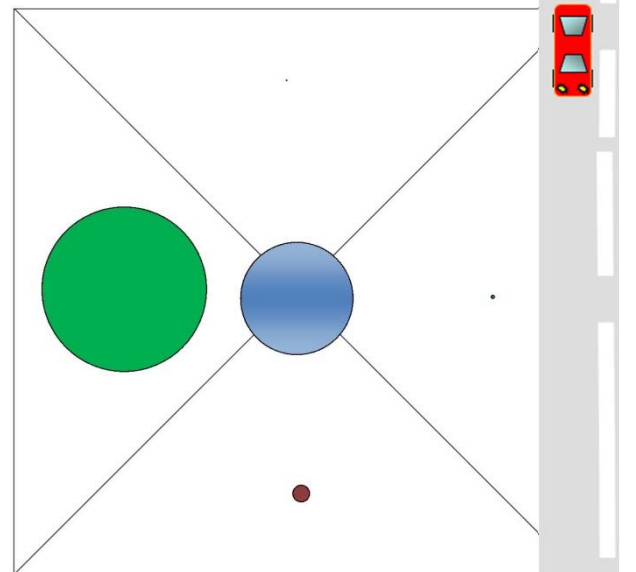
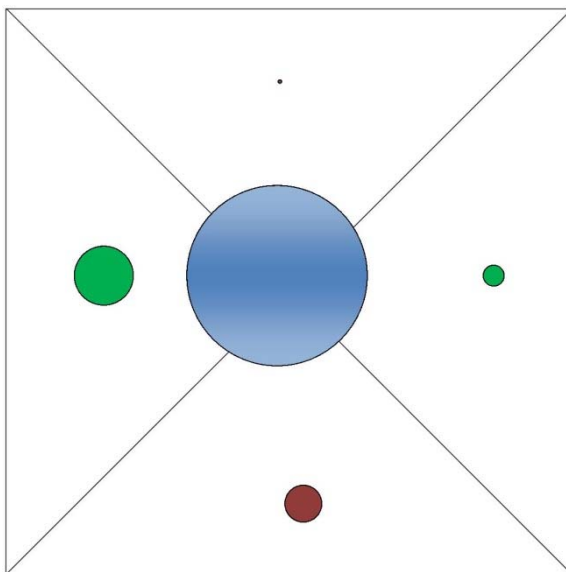
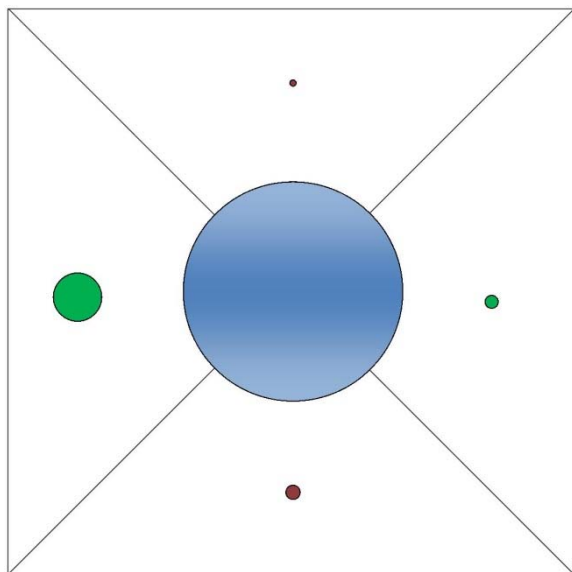
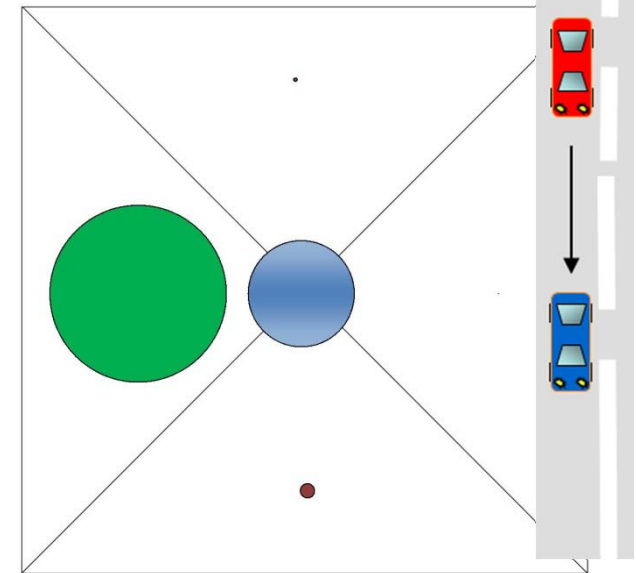
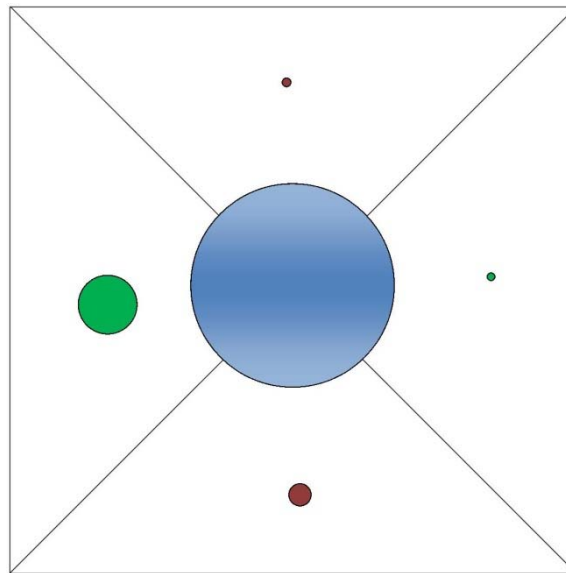
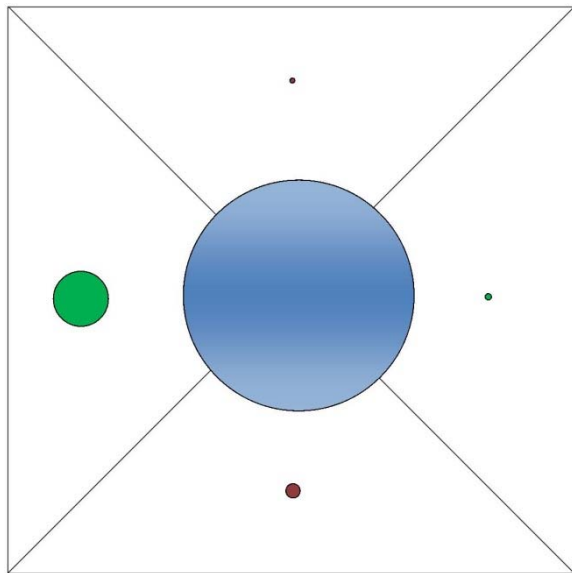




Nonvisual

Baseline

Visual





- Removing the lead car did **reduce** lateral control
- **BUT** reduced **SDLP** was still lower (better?) than baseline for the nonvisual task
- No difference in **PRC** with or without lead car
- Difficulty/unpredictability of driving **did not reduce** lateral control with secondary nonvisual task



Thank you for your **undivided**
attention!

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