

## Visual and Kinaesthetic Cues for Driver's Behaviour Regulation: Basic Results and Application to the Design of Non-Visual Displays.

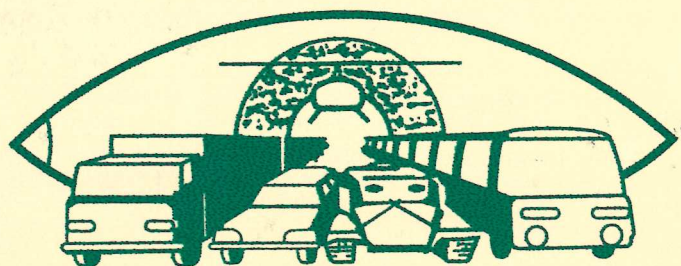
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### 1. INTRODUCTION

Evolution created human beings as multisensory, multichannel information processing systems. This is clear from several observations: Birds can see much better than we can, dogs can hear and smell better and snakes are more sensitive to vibrations. Although our most important sensory system is visual, other cues, acoustic, haptic and kinaesthetic, are important for behaviour regulation. The many imperfect attempts to create realistic moving-based driving simulators are a prominent example of this. Due to the high performance of graphic computers the visual impression of driving is quite good. But, the lack of kinaesthetic stimulation makes it difficult to drive around sharp curves in a fixed-base driving simulator. Starting from this simple but obvious observation one can ask two questions, one basic and one applied.

The basic question concerns the relative influences of visual and kinaesthetic cues on behaviour regulation. The applied question deals with the possibility of creating non-visual, in-vehicle displays, for example to warn the driver in or before dangerous situations.



# VISION IN VEHICLES - VII

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