

# How important is driver fatigue, and what can we do about it

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## Abstract

Fatigue behind the wheel is found to be definitely a major factor in accident causation, not only in large countries with long roads. Small countries have long ignored the problem, and some still do. Accident numbers show that the problem is not related or confined to maximum length of roads in countries. Countermeasures are necessary, but not all ‘available’ countermeasures are equally effective. Recently, electronic devices are popping up in the market in large quantities, however, it is difficult to judge which ones are really effective to combat fatigue. Some indications on effectiveness and promising developments of electronic driver monitoring devices are given.

## Introduction

For at least half a century, long haul heavy vehicle transport is associated with accidents, notably of the fatal kind. The public image of long distance truck and bus operating is rather poor, mainly because of the severity of accident outcomes, in terms of both social and economical costs. Looking at the nature of these accidents, the association with driver fatigue is obvious. Therefore, specifically in countries where thousands of kilometres long haul transport is common business, considerable time and resources are devoted to the issue of driver fatigue. Mabbott (1999, 2000) lists the topics that have been endowed with plenty of research funds in large countries like Australia, the USA, etc.: fatigue detection, sleep disorders, sleep quality, physiological and bio-behavioural monitoring, truck crash studies and subjective evaluations. A lot of studies have been carried out that tried to answer the question whether fatigue, reduced arousal or drowsiness are related to errors and impairment in driving performance. Fatigue is found to be related to such factors as time on task, type of performance, circadian rhythm and inadequate or insufficient sleep. There is evidence that drowsiness is associated with decrements in performance, as measured in reaction time, perception, psychomotor co-ordination, decision-making and information processing (Rosekind et al., 1996). Fatigue and / or drowsiness may eventually lead to either decreased attention, which can diminish driver reactions to a dangerous level, or even sleep, which could lead directly to