

## Introduction to the Fatigue Monitoring Trial

Driver fatigue and distraction are still significant factors in heavy vehicle crashes. Recent industry data suggests that one in eight heavy vehicle crashes results from heavy vehicle drivers driving while fatigued.

While minimum rest and maximum work limits are the primary protection against heavy vehicle driver fatigue—and have successfully lowered this rate—innovative approaches are needed to drive future improvements.

Driver fatigue and distraction detection technology—involving a range of electronic systems—is becoming increasingly common in the heavy vehicle industry.

### How does driver fatigue and distraction detection technology work?

It works by monitoring different biological and behavioural indicators associated with fatigue or distraction, and providing warnings to the driver or the supervisor or scheduler looking after the driver.

There are several different technologies currently available in the market that measure driver fatigue and/or distraction. Some monitor a driver's gaze, others their eye blink speed, and others their brain activity.

While some may use driver-facing cameras, the technology is not designed to intrude on a driver's privacy. In most cases, the technology is tuned to very specific actions and only triggers an alarm when very specific conditions occur—like not watching the road or closing their eyes for extended periods.

The technology provides an impartial, objective, independent measure of drivers' fatigue and/or drowsiness.

### Why is the technology being developed?

When drivers become impaired by fatigue, they are less able to detect that impairment and may fail to take the rest they need to recover. By providing an impartial measure of driver fatigue, the technology

can overcome this and warn the driver to take a break before they become too impaired to drive safely.

Some also claim that driver fatigue and distraction detection technology may be more accurate for monitoring and managing driver fatigue than traditional work and rest hour limits and the work diary, and that this greater accuracy should unlock greater productivity, as drivers would not 'waste' time waiting to meet prescriptive limits.

### What's the challenge?

At present, there is no regulatory recognition of driver fatigue and distraction technology whatsoever.

This means that operators who elect to adopt these technologies within their business do so of their own accord. Typically, they do so in an attempt to improve driver safety or to better manage operational performance within their business.

Some people see this lack of regulatory recognition as a barrier to adoption, as it means there is no unbiased support available to help operators integrate this type of technology into their business.

In addition, because there is no regulatory framework for the technology, the NHVR cannot assure that the technology works effectively and subsequently give regulatory concessions to users.

### Why conduct a Fatigue Monitoring Trial?

The NHVR is undertaking the trial to gain a greater understanding of the characteristics, performance and utilisation of a range of fatigue safety related technologies.

### What is the purpose of the trial?

The purpose of the trial is to determine how best to encourage industry uptake of technology that monitors drivers and detects fatigue and/or distraction.

## What will the trial do?

The trial's focus will be to get fatigue monitoring out of the laboratory and into everyday use.

To do this, it will investigate how fatigue monitoring technology performs compared to the driver work diary—under different regulatory conditions and with different levels of support.

The trial will make recommendations on a Concept of Operations, as well as produce guidance and support materials for people who are interested in rolling out the technology in their business.

## How does this differ from other trials?

There have been previous trials and there are ongoing trials in the area of fatigue detection technology.

These trials have primarily been undertaken by research centres in collaboration with technology companies. The focus of these trials has been on validating whether the technology is capable of correctly identifying fatigue.

The NHVR trial is not intended to replicate previous work but rather to draw upon the current knowledge being produced to form an integrated body of knowledge from which assessment of the technology in the context of regulatory recognition and operational integration can be undertaken.

## How will the trial work?

The trial is being conducted in five phases between January 2019 and June 2020.

Each phase will build on the previous phase to create a comprehensive understanding of the:

- capability of the technology
- accuracy of the technology in comparison to work and rest limits and work diary
- efficacy of the technology in different regulatory arrangements
- operational needs to support the technology in different regulatory arrangements
- stakeholder preferences for a concept of operation to support the technology.

The five phases of the trial are as follows, with the provisional timeline shown on page 3:

<b>Phase 1 Research</b>	Review of the relative merits/disadvantages of currently available fatigue/distraction detection technologies
<b>Phase 2 Analysis</b>	Analysis of records and data from operators currently using the technology to assist in identifying ways to facilitate the successful adoption and use of fatigue and distraction technology by the road freight industry
<b>Phase 3 Testing</b>	Field assessment of technology to assess adaptability for operator use and validate key findings from Phase 2
<b>Phase 4 Consultation</b>	Consultation with industry stakeholders on potential use of technology to manage fatigue and its inclusion in the Heavy Vehicle National Law
<b>Phase 5 Reporting</b>	Completion of reports for Phases 1 to 4

## Who is conducting the trial?

The NHVR will lead the trial but will engage an independent, external consultant to assist with certain aspects of its delivery.

The NHVR will also engage regularly with industry and government stakeholders through established forums and meetings.

## How can I be involved?

Keep an eye on the NHVR website for the latest information or *On the Road*, the NHVR's industry newsletter. You can subscribe to *On the Road* here: <http://www.vision6.com.au/em/forms/subscribe.php?db=382978&s=102858&a=40111&k=07f9420>

Any invitations to participate in the trial will be made through these two publications.

### For more information:

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## Provisional timeline

