MEDIA RELEASE

World first in fatigue research

The National Transport Commission (NTC) and the Cooperative Research Centre for Alertness, Safety and Productivity (Alertness CRC) today released the results of a world-first study into heavy vehicle driver fatigue.

The two-year scientific study evaluated alertness monitoring technology and the impacts of work shifts on driver alertness. It analysed shift start time, the number of consecutive shifts, shift length, shift rotation, rest breaks and their likely impact on driver drowsiness and fatigue.

Spokesperson and Theme Leader for the Alertness CRC Associate Professor Mark Howard said the research involved a study of more than 300 heavy vehicle driver shifts both in-vehicle and in a laboratory, as well as 150,000 samples of retrospective data.

'We found that slow eye and eyelid movements, longer blink duration and prolonged eye closure are reliable predictors of drowsiness and fatigue', Associate Professor Howard said.

The study also confirmed the scientific link between alertness and drowsiness patterns associated with specific work shifts for heavy vehicle driving.

NTC Chief Executive Officer Dr Gillian Miles said these findings will inform future fatigue policy as part of the NTC-led review of the Heavy Vehicle National Law (HVNL).

'This is critical new evidence that will ultimately help to decrease heavy vehicle fatigue risk at a time when the nation’s freight task is expected to double by 2030', Dr Miles said.

The Alertness CRC conducted the research as part of a wider collaboration including the NTC, the Australian Government, Transport for NSW, Austin Health, Monash University, the Institute for Breathing and Sleep and the heavy vehicle industry.

The summary report and an infographic of the key research findings are available on the NTC website.

Key research findings

- Greatest alertness levels can be achieved under current standard driving hours for shifts starting between 6am – 8am, including all rest breaks.

- Greatest risk of an increase in drowsiness occurs:
  - After 15 hours of day driving when a driver starts a shift before 9am.
  - After 6-8 hours of night driving (when a driver starts a shift in the afternoon or evening).
  - After 5 consecutive shifts when driving again for over 13 hours.
  - When driving an early shift that starts after midnight and before 6am.
  - During the first 1-2 night shifts a driver undertakes and during long night shift sequences.
When a driver undertakes a backward shift rotation (from an evening, back to afternoon, or an afternoon back to a morning start).

- After long shift sequences of more than seven shifts.
- During nose-to-tail shifts where a seven-hour break only enables five hours of sleep – a duration previously associated with a three-fold increased risk for motor vehicle accidents.

-ends-

**Media contact:** Ron Grasso, Director Public Affairs and Communication, 0400 919 166

**Notes to editors:** The NTC is a statutory body charged with improving the productivity, safety and environmental performance of Australia’s road, rail and intermodal transport system.
# Heavy Vehicle Driver Fatigue Research Key Findings

## Greatest alertness levels can be achieved
under current standard day driving hours
for shifts starting between 6am – 8am
including all rest breaks.

<table>
<thead>
<tr>
<th>Greatest risk of an increase in drowsiness occurs:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>After</strong> 15 hours of day driving (when a driver starts a shift before 9am).</td>
</tr>
<tr>
<td><strong>After</strong> 6–8 hours of night driving (when a driver starts a shift in the afternoon or evening).</td>
</tr>
<tr>
<td><strong>After</strong> 5 consecutive shifts when driving again for over 13 hours.</td>
</tr>
<tr>
<td>When a driver undertakes a backward shift rotation (from an evening, back to afternoon, or an afternoon back to a morning start).</td>
</tr>
</tbody>
</table>

- During nose-to-tail shifts where a 7 hour break only enables 5 hours of sleep, a duration previously associated with a three-fold increased risk for motor vehicle accidents.
- When driving an early shift that starts after midnight and before 6am.
- After long shift sequences of more than 7 shifts.

During the first 1-2 night shifts a driver undertakes and during long night shift sequences.