



Do you utilise technology to reduce insurance costs in your fleet management?

Multiple Choice Poll  19 votes  19 participants

Yes - 4 votes



No - 15 votes





**Fleet Conference
& Exhibition**
AND FLEET AWARDS

MAY 23-24
ROSEHILL GARDENS
BLACKROUSE SYDNEY

Workplace Health & Safety, the Risks Involved, and the Role of Technology

LOU BOYLE

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TELETRAC NAVMAN

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Director

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NATIONAL ROAD SAFETY

PARTNERSHIP PROGRAM

Jerome Carslake



MONASH
University

ACCIDENT
RESEARCH
CENTRE

A partnership between:

NRSP
NATIONAL ROAD SAFETY

PARTNERSHIP
PROGRAM

Road Safety Basics & Complexities



Karolinska Sleepiness Scale

How sleepy are
you feeling?

1 = extremely alert,

3 = alert,

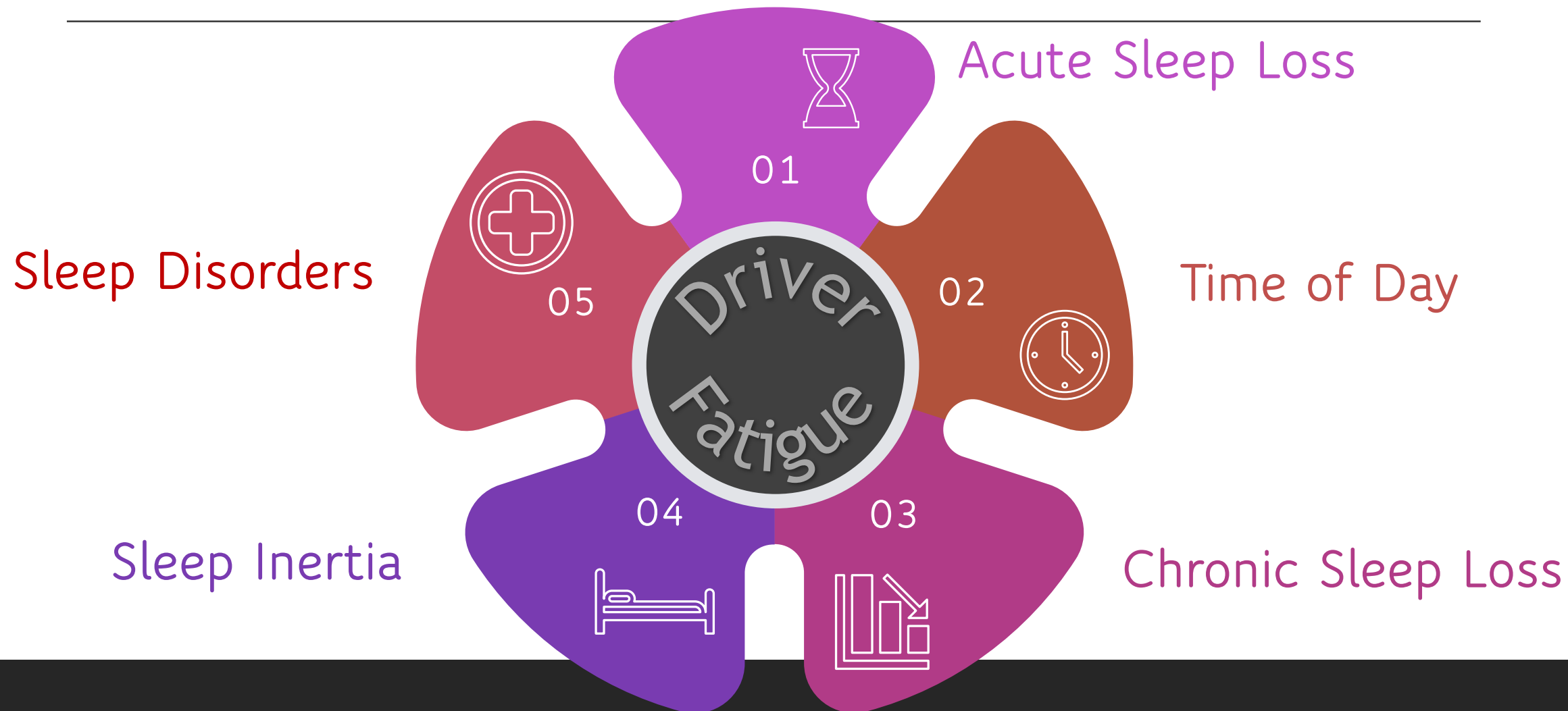
5 = neither alert nor sleepy,

7 = sleepy - but no difficulty remaining
awake, and

9 = extremely sleepy - fighting sleep



Causes of Fatigue (sleepiness)



How inadequate sleep impairs health

IMPAIRED BRAIN FUNCTION

Inadequate sleep leads to impairment across broad range of cognitive functions

DEPRESSION & ANXIETY

Lost sleep leads to a cascade of behavioural/ neurobiological precursors to depression/anxiety

HORMONAL CANCERS

Chronic suppression of melatonin disrupts hormone production, which can lead to certain cancers

DIABETES

Increased cortisol and NE caused by lack of sleep lead to insulin resistance

WEIGHT GAIN/OBESITY

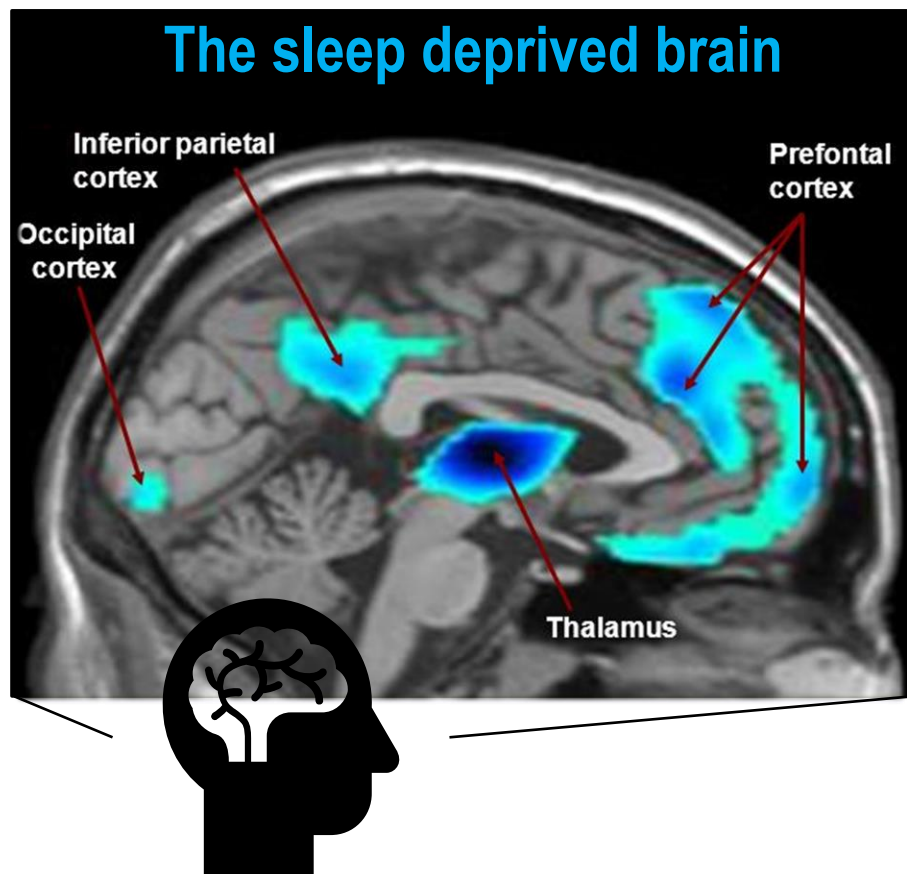
Inadequate sleep alters neural responses to food choices and 'hunger' hormones to cause weight gain

STROKE

Inadequate sleep (< 6hrs) increases stroke risk four-fold



Consequences of Lost Sleep



Alertness & Attention

- Likelihood Falling Asleep
- Reduced Concentration
- Delayed Response Time
- Lapses in Attention
- Distractibility
- Task switching

Cognitive Function

- Logical Reasoning
- Memory Problems
- Poor Decision Making
- Impulsivity and Lack of Inhibitory control
- Poor Communication
- Flexible thinking or goal directed behaviours

Emotional Regulation

- Frustration
- Irritability
- Emotionally Reactivity
- Poor Social Interactions

Consequences of Lost Sleep: Effects on Driving



Reduced alertness



Reduced ability to retain control of vehicle within the lane



Slower reaction times



Difficulty maintaining correct and consistent speed



Poorer judgment and decision making



Changed peripheral processing



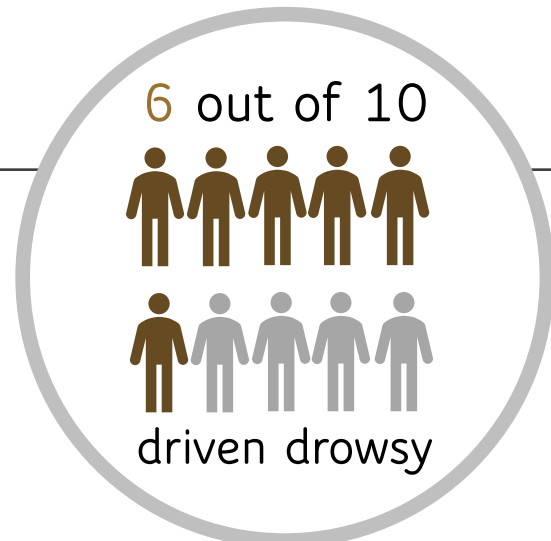
Prone to distractions and daydreaming



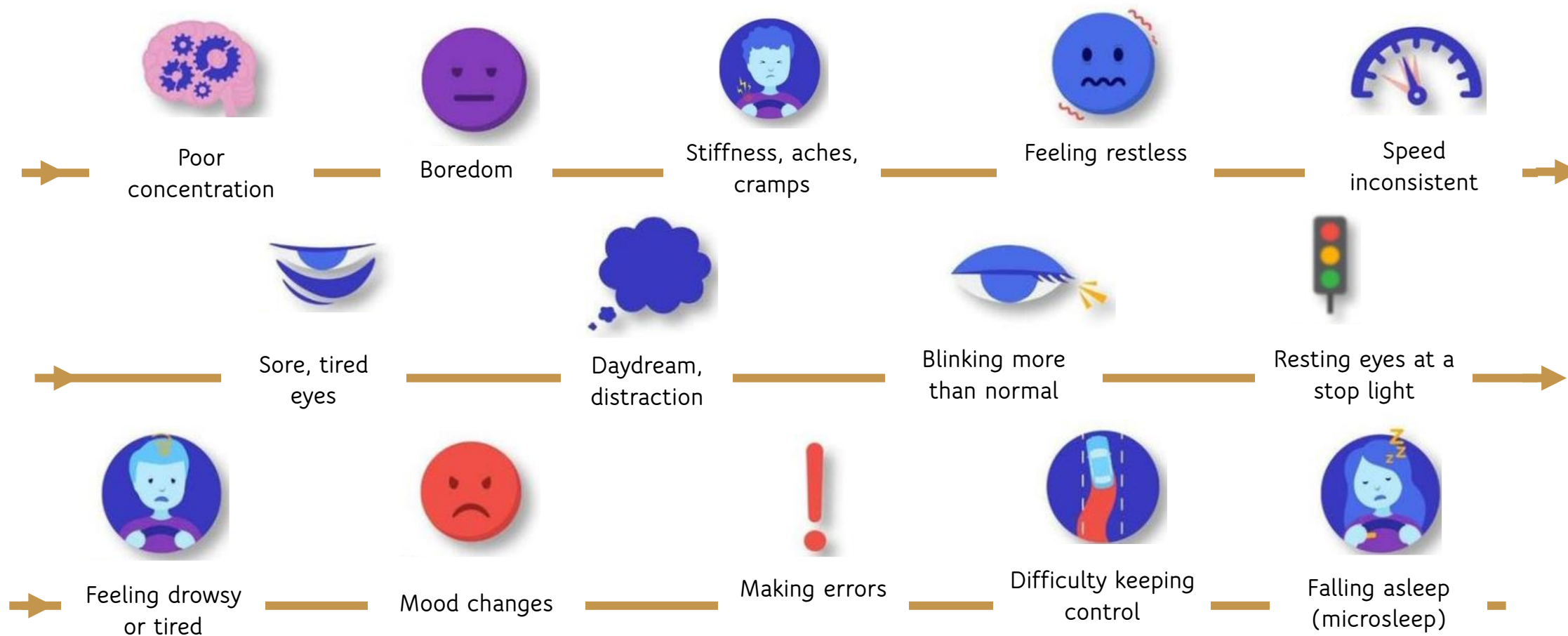
Decreased tolerance of other road users

Question Time

Who has driven while drowsy?



Drowsy Driving: How a Disaster Unfolds



The Cost of Driver Fatigue



Drivers who slept 4-5 hours are 4.5 times more likely to crash than drivers who slept 7 hours

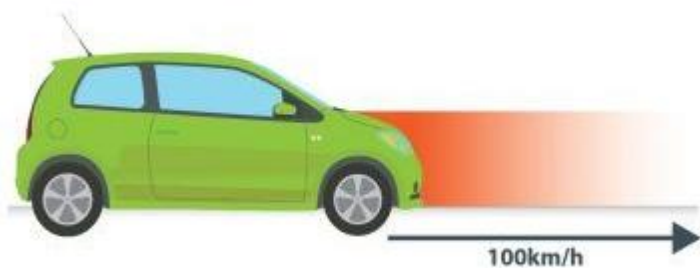
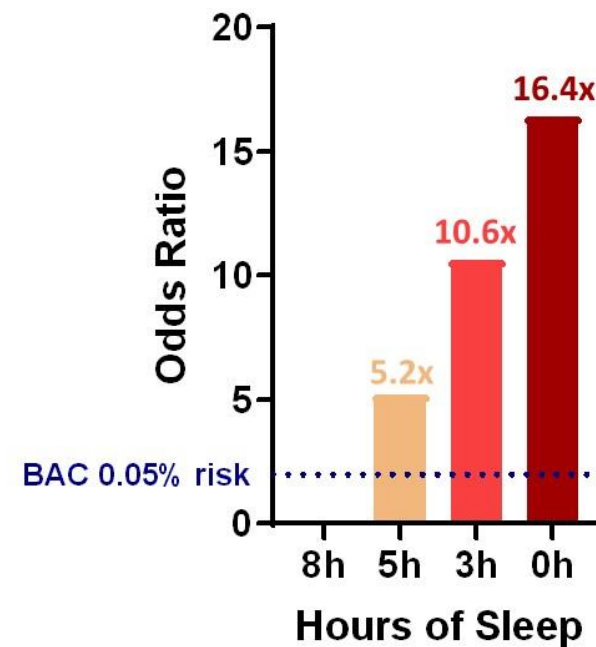
11.5x



Drivers who slept < 4 hours are 11 times more likely to crash than drivers who slept 7 hours



After 3 hours of sleep, crash risk is more than 5 times the legal limit for alcohol



A driver falling asleep for just four seconds at 100 km/h will travel 111 metres without being in control



Drivers falling asleep cause 20% of all crashes



1 in 25 drivers admit to falling asleep at the wheel

Driver Fatigue Myths

What myths might you have heard?

Fatigue is caused by a heavy meal



I don't need much sleep



Fatigue is only a problem on LONG BORING journeys



You can fight sleep



Fatigue doesn't affect professional drivers



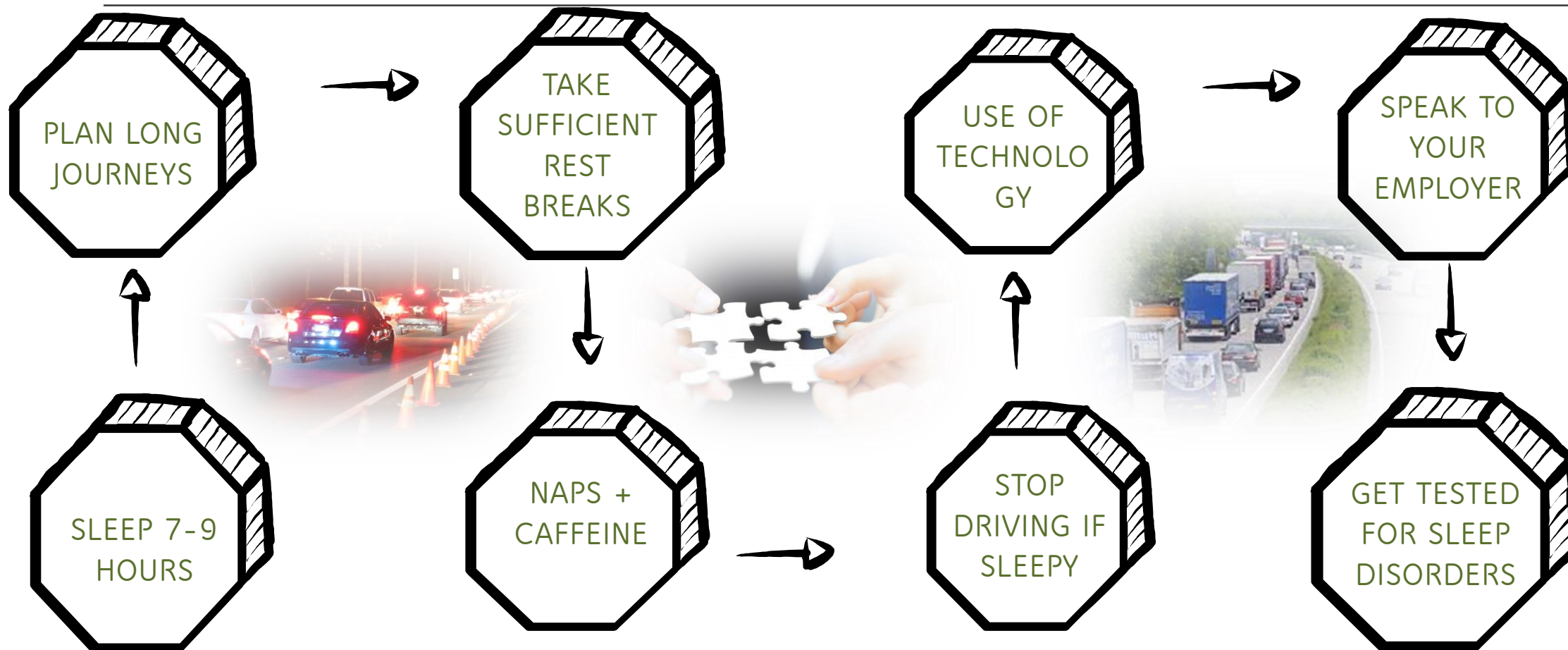
Fatigue only affects young, inexperienced drivers



Solutions to Driver Fatigue

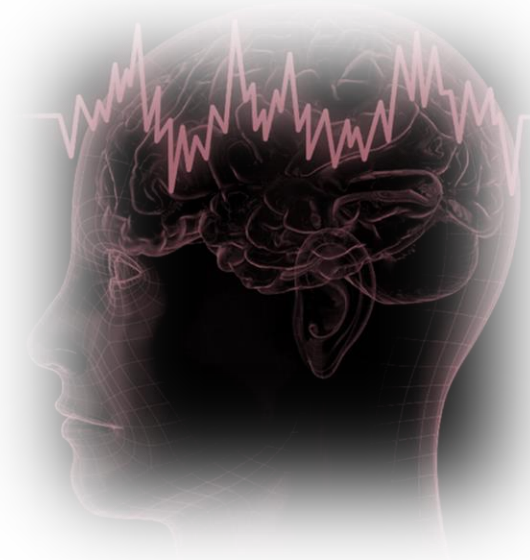
What strategies do you employ to help with fatigue?

Solutions to Driver Fatigue



Take Home Message

1. Driver fatigue is caused by poor/lost sleep
2. Sleep is a basic need. There is no substitute nor fighting it.
3. Sleep loss affect the brain, and affects more than simply falling asleep.
4. Many myths exists - find the facts.
5. The best strategies involve good sleep, good planning, and employer support



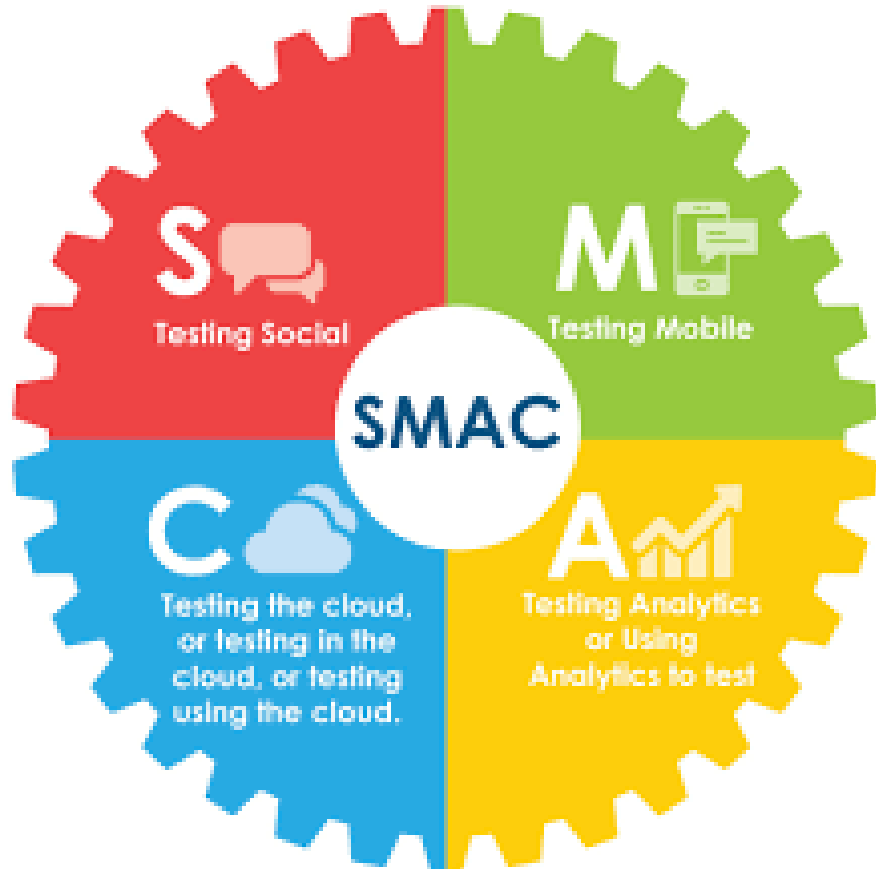


Workplace Health and Safety, the Risks Involved and the Role of Technology

LOU BOYLE, TELETRAC NAVMAN

Digital Economy

SMAC – dominates how tech evolves



Cloud

Mobility

Social Media

Data /Analytics

Telematics - connected vehicles



A branch of Information technology which deals with the long-distance transmission of computerised information

It involves, telecommunications (cell or sat or both), vehicle technologies, sensors and computer science, hardware and software

IOT - council plant and fleet (motorised and non-motorised assets - one platform) (SAAS)

Delivers expected and un-expected positive benefits

Second-by-second real time data in report format

When applied to transport

Regulators

Government

Industry

Drivers/Individuals

Community

GREAT THINGS HAPPEN



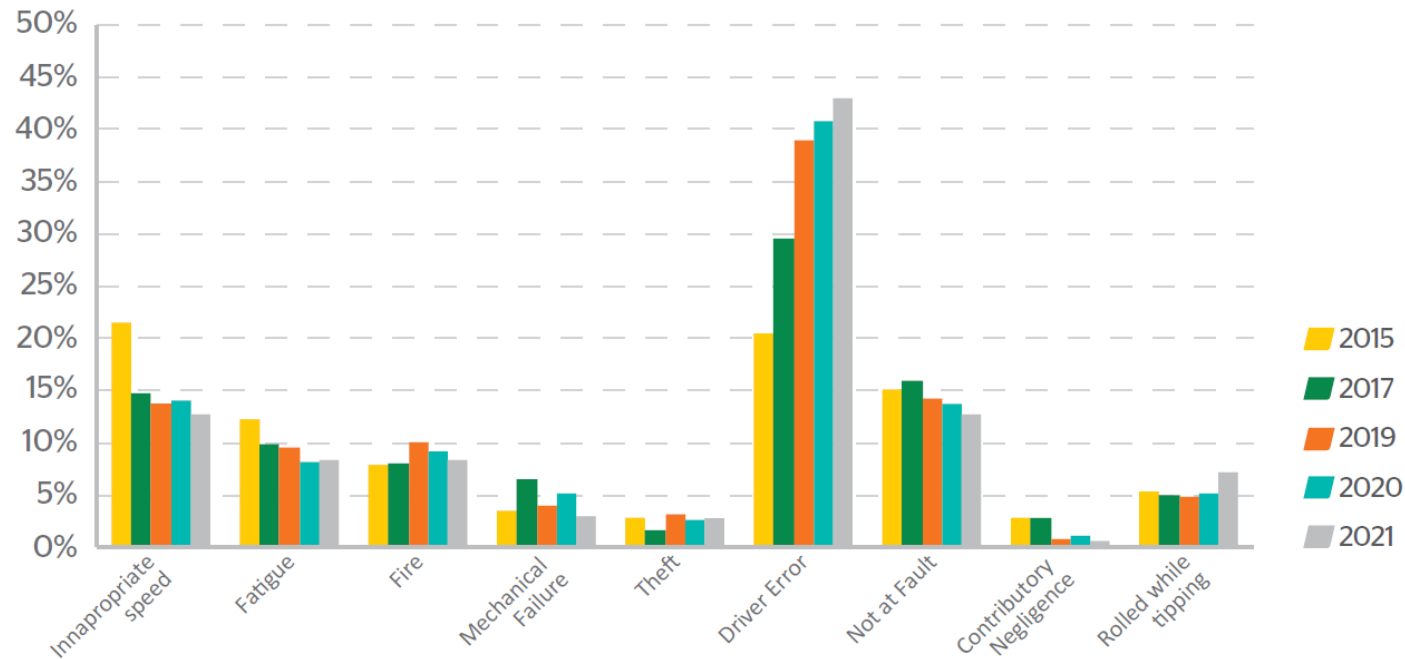
Industry Risks & Trends

- The heavy vehicle transport industry is one of the most dangerous in the country, with truck drivers being 13 times more likely to die at work than other Australian workers.^[1]
- Driver distraction continues to grow as a leading cause of heavy vehicle crashes. Research has shown that driver distraction is attributed as the second most common cause of heavy vehicle crashes, only marginally behind driver fatigue.
- Driver distraction contributes to around 18% of fatal and injury crashes.^[2]
- In 2020, 15.4% of heavy vehicle large loss incidents were attributed to driver inattention or distraction.^[3]

NTI 2022 NTARC Report

Review of the distribution of incident causes for 2021 reveals limited change when compared to prior years.

Incident Cause



IQ Camera



The IQ Camera is a sophisticated AI-powered dashcam, with built-in Advanced Driver Assistance (ADAS) and Driver Status Monitoring (DSM) features. This highly configurable dual-camera system provides added understanding of what has occurred with high quality footage before, during, and after an event. Video data is automatically uploaded to our TN360 Operational Intelligence platform for immediate viewing.

IQ Camera

ADAS Features



Lane Departure Warning



Forward Collision Warning



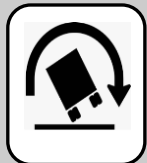
Tailgating



Stop signs



Speeding



Harsh Maneuvering

DSM Features



Driver Distracted Warning



Drowsy Driver



Mobile-Phone Usage Warning

Key Features

Capable of **Full HD Video** before, during, and after an event



Artificial Intelligence detects & alerts drivers to potential hazards in real time



Industry leading connected HD camera and telematics system



Built-in GPS GLONASS receiver with self-checking notifications



Available Features



Premium Event Access packs are available to increase automatic downloads



Available Live streaming allows you to monitor vehicles remotely

IQ Camera Experience in TN 360

Home

309 km/h

Map Satellite

ACCESS CAMERA EVENTS IN TRACKING SCREEN

Teletrac

Martin Vehicle

Trips Safety Proximity Map Tiles Card View

Trip Summary Vehicle Details

- 08 Jul 2022 09:01 AM Camera Distraction State Highway 18, Auckland 0602, New Zealand
- 08 Jul 2022 08:57 AM Camera Marsh Usage State Highway 18, Auckland, New Zealand
- 08 Jul 2022 08:52 AM Camera Speed Violation 84 Royal View Road, Te Atatu South, Auckland 0610, New Zealand
- 08 Jul 2022 08:51 AM 284 Route 13, Auckland 0610, New Zealand
- 08 Jul 2022 08:50 AM 284 Route 13, Auckland 0610, New Zealand
- 08 Jul 2022 08:44 AM 143 Te Atatu Road, Te Atatu South, Auckland 0610, New Zealand
- 08 Jul 2022 08:32 AM 143 Te Atatu Road, Te Atatu South, Auckland 0610, New Zealand

06 Jul 2022

Home

Dashboard Cameras

Search All Companies All Fleets All Vehicles July 2022 Sort By Snapshot Date

Martin Vehicle Not Logged In

364281043948760 Not Logged In

Warren Car Not Logged In

CORRECT INSTALL EXPERIENCE

Event Detail

Camera Event - Signposted Speed Violation Details

Device	Vehicle	Fleet	User	Branch	Location	Time
LightMetrics Martin	Martin Vehicle	LightMetrics Test Fleet			84 Royal View Road, Te Atatu South, Auckland 0610, New Zealand	08 Jul 2022 08:52:51 AM

Provider: LightMetrics

Martin Vehicle (5)

Device	Vehicle	Fleet	Driver	Branch	Time At	Location	Provider	Type	Video Status	View Event
LightMetrics Martin	Martin Vehicle	LightMetrics Test Fleet			11 Jul 2022 07:14:16 AM	64 Robinson Road, Auckland 0604, New Zealand	LightMetrics	Signposted Speed Violation	Available	
LightMetrics Martin	Martin Vehicle	LightMetrics Test Fleet			11 Jul 2022 12:02:31 PM	90 Te Atatu Road, Auckland 0610, New Zealand	LightMetrics	Distraction	Available	
LightMetrics Martin	Martin Vehicle	LightMetrics Test Fleet			12 Jul 2022 06:58:12 AM	639 West Coast Road, Auckland 0604, New Zealand	LightMetrics	Sign Violation	Available	
LightMetrics Martin	Martin Vehicle	LightMetrics Test Fleet			12 Jul 2022 09:06:34 AM	95 Sunnyside Road, Auckland 0612, New Zealand	LightMetrics	High Acceleration	Available	
LightMetrics Martin	Martin Vehicle	LightMetrics Test Fleet			12 Jul 2022 09:18:32 AM	736 West Coast Road, Auckland 0604, New Zealand	LightMetrics	Distraction	Available	
LightMetrics Martin	Martin Vehicle	LightMetrics Test Fleet			12 Jul 2022 09:36:31 AM	64 Robinson Road, Auckland 0604, New Zealand	LightMetrics	Signposted Speed Violation	Available	
LightMetrics Martin	Martin Vehicle	LightMetrics Test Fleet			12 Jul 2022 12:17:27 PM	117 Awarua Road, Auckland 0612, New Zealand	LightMetrics	Distraction	Available	
LightMetrics Martin	Martin Vehicle	LightMetrics Test Fleet			12 Jul 2022 01:18:05 PM	639-635 West Coast Road, Auckland 0604, New Zealand	LightMetrics	Sign Violation	Available	
LightMetrics Martin	Martin Vehicle	LightMetrics Test Fleet			12 Jul 2022 03:35:05 PM	10 Sunnyside Road, Auckland 0612, New Zealand	LightMetrics	Sign Violation	Available	

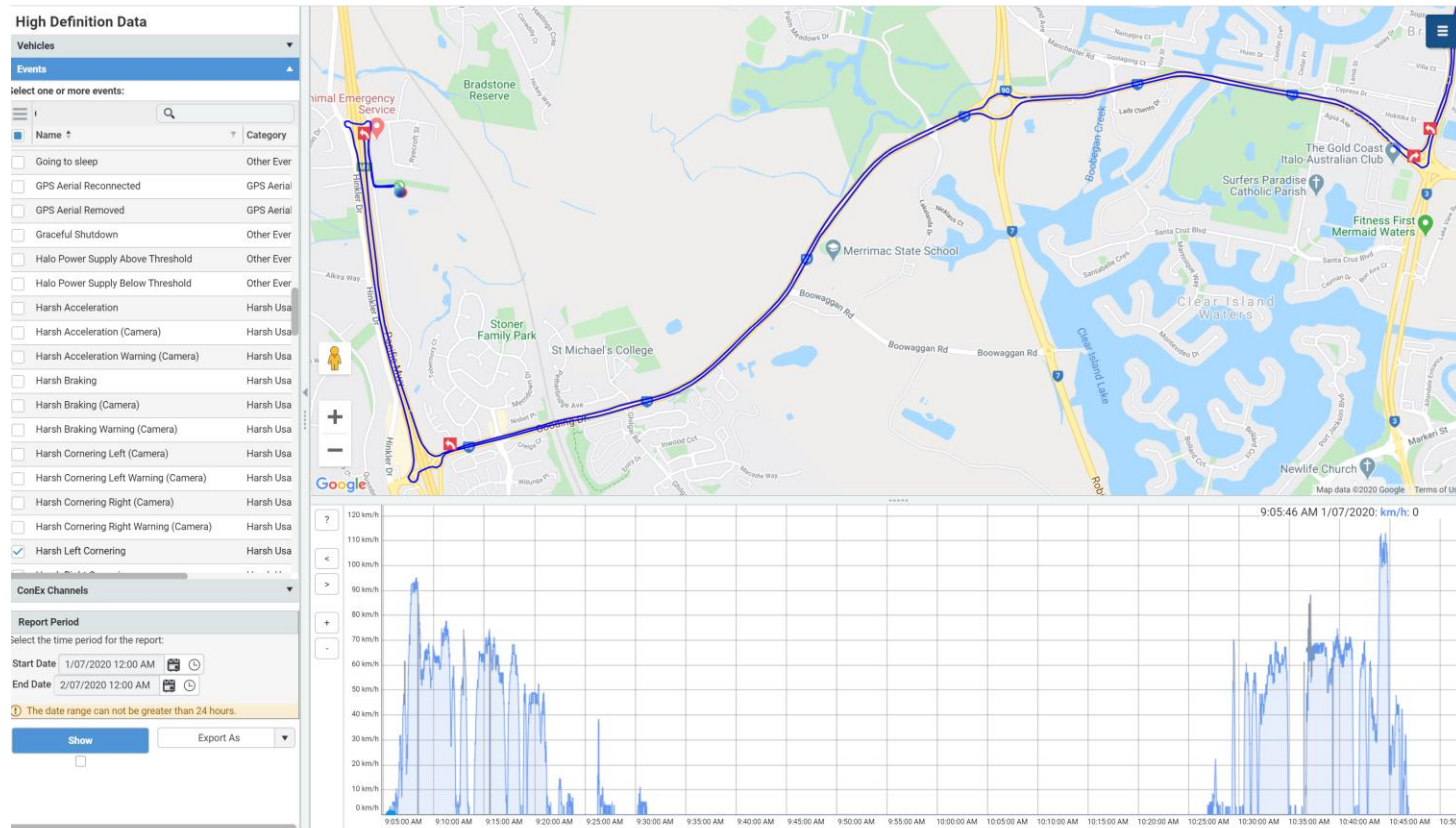
SPEED SIGN RECOGNITION

EVENTS REPORT AND ALERTS

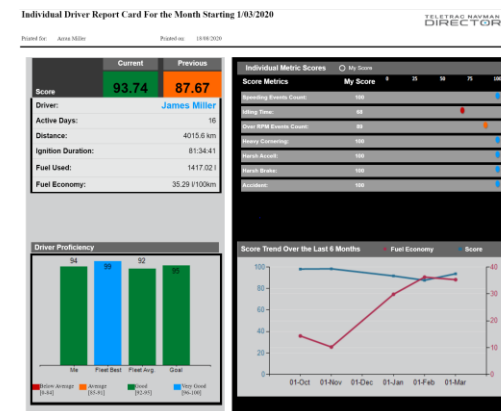
Smart Dashcam camera video



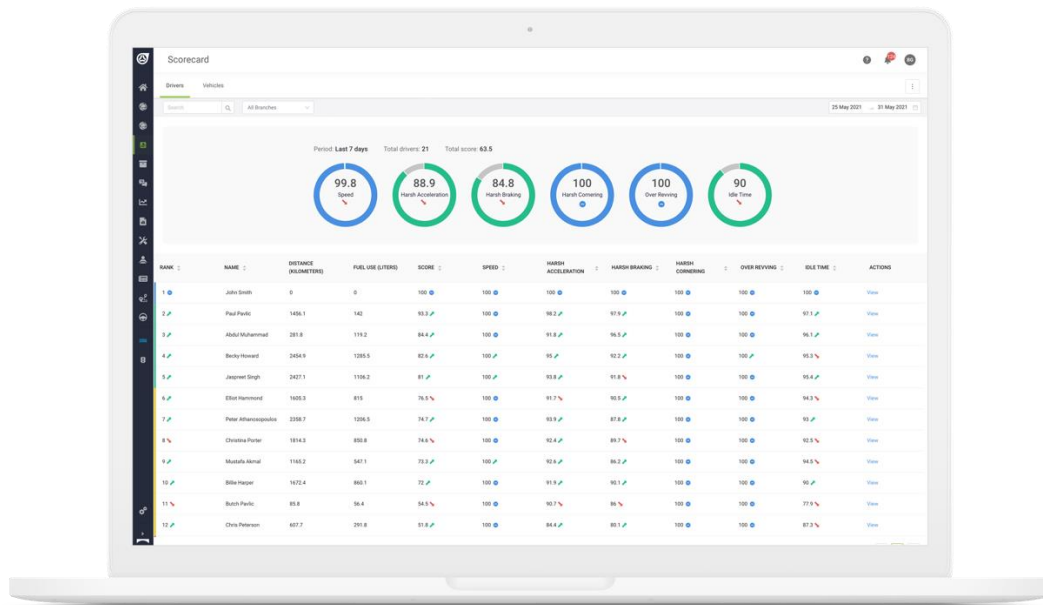
Driver Safety & Behaviour



- Supporting second by second data reliably and on request.
 - Allows close review of vehicle and driver
 - Both work related and driving events
- Leads on to driver scorecard
- Gamification - reward the positives



Scorecard



TN360 Scorecard is a feature that analyses the data already attained within your business through telematics installed, that provides unique insights in operator performance. From speed and idle time, through to acceleration and braking, drivers within the organisation are ranked to help provide you with a clear view into opportunity to improve business performance, but also coach drivers to be safer on the roads.

- See breakdown of each individual metric and set threshold for each metric
- Instant view into performance for visual analysis of each driver and their score
- Colour-coded driver leader board to see who has improved and who needs help


Indirect Benefits

- Insurance premiums
- New data sets
- Raising the value/culture of “data” within the organisation
- Better responsiveness – DM, events



Insurance Summary – Highlighting Improvements since introduction of Vehicle Telematics

Calendar Yr	Total No. of Claims	Agency at Fault Claims	Claims over \$5K	Claims over \$10K	Average Cost of Claims
2016	198	94	17	20	\$3871
2017	151	62	15	7	\$3049
2018	96	14	14	1	\$2847

NB: Information provided  for the calendar years listed.

Results by Industry, maximising accuracy using high definition data

Industry	Reviews	Avg Refund	Avg Benefit
Water Infrastructure	1	\$24,913.22	\$607.64
Transportation - Mining, oil & gas	14	\$4,511.34	\$195.25
Transportation - Forestry	3	\$3,747.89	\$139.03
Transportation - Port	7	\$4,444.19	\$132.86
Earthmoving	21	\$3,619.71	\$123.54
Civil Construction	12	\$3,745.15	\$102.71
4WD Transportation	2	\$4,134.10	\$101.26
Quarrying	13	\$3,099.70	\$92.30
Heavy Haulage	17	\$3,559.96	\$91.44
Transportation - Marine	1	\$3,829.40	\$85.10
Concrete Company	2	\$3,724.29	\$82.30
Landscaping	5	\$2,235.23	\$79.97
Refrigerated Transport	5	\$4,101.45	\$78.68
Transportation - Agriculture	49	\$2,428.43	\$78.33
Local Council	3	\$966.36	\$66.41

Industry	Reviews	Avg Refund	Avg Benefit
Plant Hire	2	\$2,083.00	\$63.44
Waste Services	6	\$2,736.44	\$63.42
Transportation - General	39	\$1,979.97	\$59.83
Towing Services	6	\$2,593.10	\$50.00
Fuel Supplier	6	\$981.85	\$45.72
Mobile Crane Operator	3	\$1,278.47	\$28.09
Driver Training	1	\$1,142.00	\$23.79
Linehaul	2	\$1,209.22	\$22.67
Diesel Mechanics	1	\$863.60	\$17.99
Removals	1	\$687.71	\$16.37
Vegetation Services	1	\$601.93	\$13.38
Transportation - Horses	1	\$158.40	\$13.20
Bus Operator	1	\$535.33	\$11.15
Light Vehicles	2	\$289.52	\$10.27
Electrical Contractors	1	\$370.40	\$7.72
Transportation - Retail	1	\$259.75	\$5.41

Completed Retrospective Reviews = 231

Average Refund (per unit / 4 years)

\$2,323

Average Monthly Benefit (unit/mth)

\$64.99

Case study, local government - NSW

- \$2.7m in sales revenue and avoided operational / capital costs of under-utilised assets (more in the pipeline);
- 32.5% less fuel FY20/21 (vicinity of \$1.2m);
- Retrospective ATO FTC \$375,000;
- \$238,000 in avoided capital costs by reallocating under-utilised assets to other departments replacing end of life assets;
- Increase in quarterly FTC claims of ~\$39,000;
- 50% imp. in pre-start check data capture;
- 'replay' journeys to investigate complaints (validate/refute claims; investigate vehicle crash incidents);
- Automated monthly utilisation reports to decision-maker managers to raise awareness of asset cost versus actual use



“System paid for itself in less than six months on a three-year contract and we now have obtained a 6 x ROI.”

Summary

- Technology will continue to evolve
- Regulators, business, will continue to apply to drive outcomes
- AI will allow insights and immediately to key stakeholders -
- Safety benefits
- But strong ROI – fuel, maintenance, utilisation – FTC
- Risk profile.



Questions?

Thank you for joining us today

Jerome Carslake

Director of National Road Safety Partnership Program
Monash University Accident Research Centre

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[@NRSPP](#)



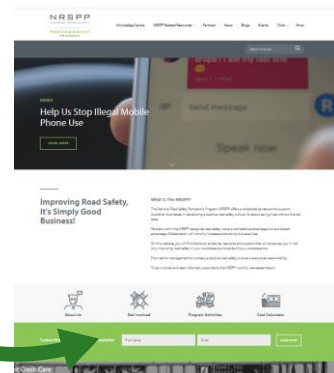
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Audience Q&A Session [slido](#)

- Who's ultimately responsible for mitigating the risks of a sleepy driver? Technology, the organisation, the driver or all the above?
- Great presentation. A lot of parents of young children operate on very little and broken sleep and can't just avoid driving, what do you suggest?
- Whilst fatigue management is a factor in the chain of responsibility for heavy vehicles, why is this not relevant for passenger vehicles?
- Given the correlation with accidents is there a possibility that roadside fatigue testing could be implemented? Is there anywhere else in the world that has it?
- Do you have a driver app for post trip feedback and gamification of org stats?
- How accurate are watch Apps for monitoring sleep on average?



Session Details

Workplace Health & Safety, the Risks Involved,
and the Role of Technology

Tues, 23/5

Safety
Breakout 1

Add session

SESSION FEEDBACK



**Fleet Conference
& Exhibition**

MAY 23-24
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AND FLEET AWARDS

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2023 Australasian Fleet Conference

LOOK FOR THE SESSION

AND CLICK THE

SESSION FEEDBACK