TRG - a multidisciplinary research group
20+ year history, formerly as Traffic and Road Safety, TARS

**Psychology**
Prof Samuel Charlton – driver behaviour
Prof Nicola Starkey – driver behaviour
Assoc Prof John Perrone – visual perception
Technical support/lab manager

**Economics**
Prof Frank Scrimgeour - economic analysis of infrastructure investments

**Engineering**
Prof Mike Duke – electric vehicles

**Law**
Prof Barry Barton - environmental law
Gay Morgan - effectiveness of legislation

**Computer Science**
Assoc Prof Ryan Ko – cybersecurity

**Environmental Planning**
Prof Iain White – spatial planning

**External stakeholders**
NZ Police, NZTA, Automobile Association, Midland Regional Trauma Group, ACC

https://sites.google.com/a/waikato.ac.nz/trg/home
Research approach / philosophy

International reputation for research on fundamental cognitive and performance processes involved in driver behaviour – **Everyday driving**

1. People make mistakes
2. People are vulnerable
3. We need to share responsibility
4. We need to strengthen all parts of the system

Our research is part of the Safe System approach: designing the road transport system to fit the needs and capabilities of its users.
Driving simulator: Virtual environment

Virtual environment - complete control of road layout, traffic, and road design and collection of various performance measures (speed, SDLP, brake reaction time etc.)

“Drivers’ response to warnings/information provided by in-vehicle applications/systems” (TAR16/18)
Driving simulator: Video environment

Video environment: Driver controls their speed and ‘steers’

Findings verified using on-road testing

“Perceived risk, speed and countermeasures” (AARF) Charlton & Starkey, 2016
Eye tracking: Tobii Pro Glasses
“Drivers’ response to warnings/information provided by in-vehicle applications/systems” (TAR16/18)

Picture sort and questionnaire booklets:
“Predictability and Credibility of Speed limits”
(AARF, NZTA)
Questionnaires and group interviews

Telephone and internet surveys
“Prevalence and impairment effects of drugged driving in New Zealand” TAR14-25

Internet surveys and group interviews
“The NZ public’s readiness for connected-and autonomous-vehicles” (TAR16-26)
<table>
<thead>
<tr>
<th>Project</th>
<th>Application</th>
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<tbody>
<tr>
<td>Overtaking lane markings</td>
<td>Became standard in 2000</td>
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<td>Priming and memory of road hazard signs</td>
<td>2005 expansion of chevron sight board use</td>
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<td>Mobile phones &amp; distraction</td>
<td>2009 NZ Land Transport (Road User) Rule Amendment</td>
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<td>Self-explaining roads</td>
<td>2010 Redesign of Glen Innes roads &amp; 2012 govt Safer Journeys strategy</td>
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<td>Drinking &amp; driving</td>
<td>2014 NZ Land Transport (Road User) Rule Amendment</td>
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<td>Road markings, risk perception &amp; speed</td>
<td>used on SH alternate route after 2016 Kaikoura earthquake</td>
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<tr>
<td>Road markings for speed</td>
<td>trial in planning stages</td>
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Selection of peer-reviewed journal articles


For more information contact trg@waikato.ac.nz