

Improving Driver Knowledge and Competency at Different Life Stages

2026 ARSC 
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Research Scope and Purpose

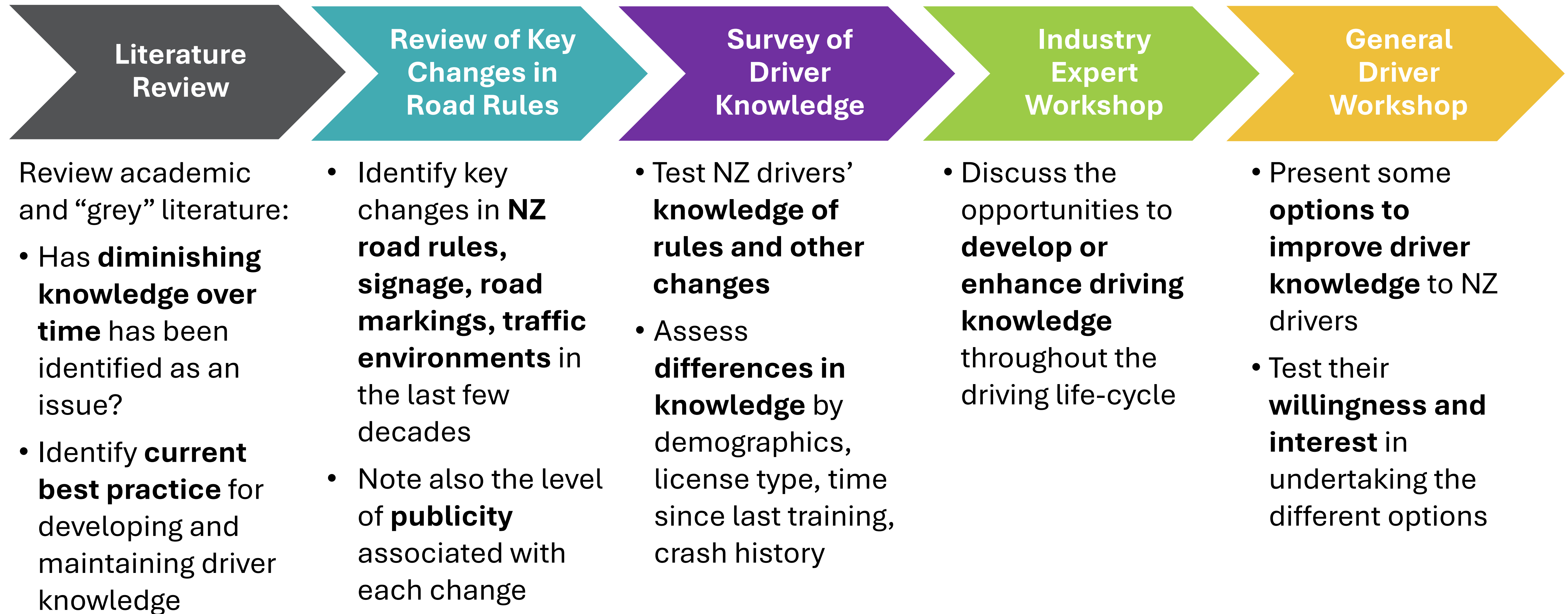
Road users' knowledge and behaviours may not stay 'fit for purpose' after initial testing:

- Knowledge from initial driver training may not be **fully retained** over time
- Might not keep up to date with **new** road rules and traffic control devices (TCDs)

This project aimed to:

- Understand **how driver competency and knowledge changes** as drivers progress through different life stages
 - From **initial** training/licensing
 - In response to **existing and changing** road rules and traffic environments
- Assess potential options for **maintaining sufficient knowledge** through time

Research Project Stages



Literature Review: Driver Knowledge Gaps

- There are a range of reasons why knowledge gaps could be present:
 - Failure to learn at **initial** licensing
 - Not understanding the **full extent** of the rule
 - Forgetting **infrequently** encountered rules/signs/markings
 - Not properly integrating **new** rules/signs/markings
 - International drivers or those returning from long stays **overseas**
 - **Health** issues, age, impairments, personal accidents

*The research didn't tell us if driver knowledge is **lower** at any point in the driving life-cycle
- or if **any** of the reasons above are an issue*



Literature Review: Building Knowledge

We found that:

- **Training interventions:** *Few* licensing systems check core driving knowledge (rule, signs, markings) *throughout* the driving life-cycle
 - Knowledge is included in some **advanced** driver and **older** driver training
 - Some **knowledge assessments** available e.g. Traffic Sign Recognition Test
- **Communications campaigns:** *Few* knowledge-focused campaigns have been thoroughly evaluated on their effectiveness
- **Signage & marking design:** There is considerable guidance available on **ergonomic** (i.e. well laid out) sign and marking design

Key Road Changes Summary

Changes to NZ road rules

- 1994 - Requiring all cyclists to wear an approved helmet
- 1997 - Introducing painted (flush) medians
- 2004 - Increasing the speed limit for heavy vehicles towing trailers to 90km/h
- 2005 - Introducing bus/cycle/transit “special vehicle lanes”
- 2009 - Prohibiting the use of handheld mobile phones while driving
- 2011 - Increasing the minimum age for driver licensing from 15 to 16 years old
- 2012 - Changes to the give way rules at intersections
- 2014 - Reducing the maximum legal alcohol limits to 250µg/L breath and 50mg/L blood
- 2023 - Introducing offences and penalties for driving while under the influence of drugs

Changes to NZ traffic signs, markings, and signals

- 1988 - Introducing new symbolic road signs
- 1990 - Introducing red and amber traffic signal arrows
- 1995 - Introducing shared zones
- 1998 - Introducing new traffic signals for bus, bicycles, and pedestrian crosswalks
- 2005 - New cycle/bus/transit lane signs and markings
- 2011 - Introducing countdown pedestrian signals
- 2016 - Introducing cycle sharrow markings
- 2019 - Revoking the use of Limited Speed Zone (LSZ) signs
- 2022 - Introducing Rural Intersection Speed Zone variable speed limit signs

Driver Knowledge Survey – Summary

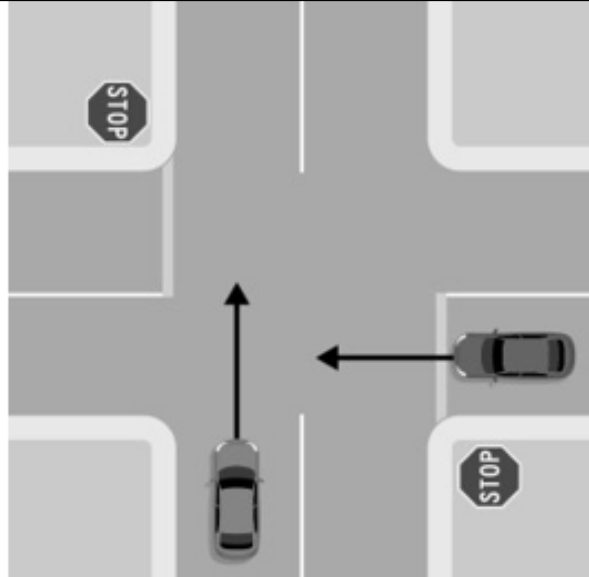
- A draft set of questions was developed for a public survey, based on:
 - **Existing** Road Rules and Traffic Ctrl Devices (*NZ Road Code*)
 - Recent **key changes** to Road Rules and TCDs
- Prime Research was contracted to obtain a suitable sample of 500+ respondents, with info on:
 - General **demographics** (age, gender, location)
 - **Licence** details and **driving history** (incl. living overseas)
 - **Crash** history (up to 5 crashes with full/partial blame)



Driver Survey – Knowledge questions

- 24 different multi-choice questions presented

If you are travelling straight through at a STOP controlled cross-road junction and another vehicle is travelling across from your right, who must give way?

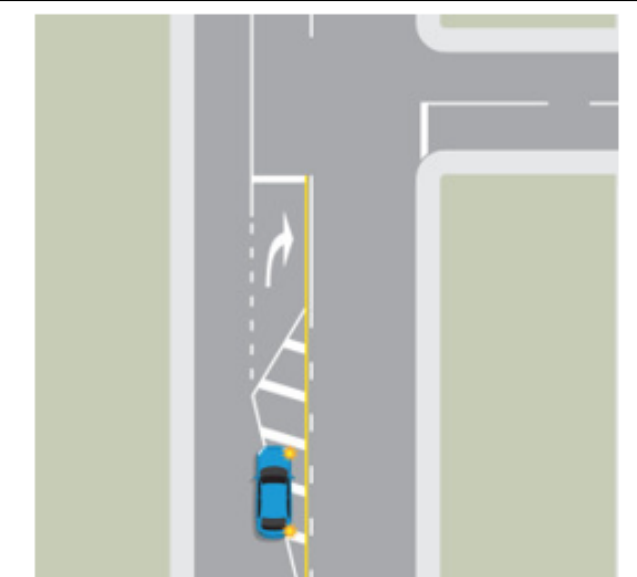


- You must give way to the other car
- The other car has to give way to you**
- You must come to a complete stop and then continue

What is the least distance of clear road you MUST have in front of you when you have finished passing another vehicle?

- 50 m
- 100 m**
- 200 m

If you are about to turn right from a right-turn bay, can you drive over the white diagonal lines leading up to it?



- Yes**
- No

What should you do when you see this sign?



- It's a "Limited Speed Zone", where the maximum speed limit is 100 km/h, but only 80 km/h if dangerous conditions such as bad weather exist
- It's a "Limited Speed Zone", where the maximum speed limit is 100 km/h, but only 50 km/h if dangerous conditions such as bad weather exist
- This is no longer a legal sign**

Can you drive in, park/stop in, or cross a painted cycle lane?



- Yes, you can drive along a cycle lane
- Yes, you can stop or park in a cycle lane
- No, except within 50m of entering/leaving a side road, driveway, or parking space, and the way is clear of any cyclist**

You are driving along a rural road and you see one of these signs start to flash. What should you do?



- Continue travelling at the same speed limit, but keep an eye on side traffic
- Slow down and give way to any side road traffic pulling out
- Slow down to 60 km/h until you have passed the intersection ahead**

What are the maximum allowable breath and blood alcohol limits for fully licensed drivers over 20 when driving?

- 400µg/L breath or 80mg/L blood
- 250µg/L breath or 50mg/L blood**
- 150µg/L breath or 30mg/L blood

Can you drive through a shared zone?



- No, you can't
- Yes, you can, but you should drive slowly and give way to pedestrians (who in turn, should not hold up traffic)**
- Yes, you can, and you have right of way

Driver Knowledge Survey – Key findings

- Average score: **16.3/24** (~68%) – *Range of scores: 5/24 - 23/24*
- Years held a licence ***not necessarily*** a strong determinant of knowledge about Road Rules and TCDs
 - Encouraging that people did better with **more safety-critical** situations
 - ***Low knowledge*** of Rules/TCDs may be linked with ***higher crash risk?***
- Some groups identified worth ***targeting*** for updating/training:
 - **Overseas** licence holders (or converted from overseas)
 - People recently returned from **living overseas**
- Newer Rules and TCDs had ***lower*** rates of correct answers
 - Need to **regularly remind people** of newer changes to Rules/TCDs?

Workshops: Options to Improve Driver Knowledge

Previous steps helped identify some ***potential options*** for developing driver knowledge - tested in workshops with **two** groups:

- **NZ subject matter experts** (SMEs): *incl. driver educators, programme managers, road safety professionals from local govt, human factors and behavioural science specialists, academics (n=12)*
- **NZ general road users**: *aimed to reflect the driving population to test the acceptability of options and their willingness / interest in participating in different interventions (n=12)*
- Online recorded workshops
 - Qualitative data from discussions and activities analysed to ***identify themes***

Subject matter experts:

- Learners may have higher **‘theoretical’ knowledge** but poor **applied knowledge** – experienced drivers may have the ***opposite***
- **Applied knowledge and attitudes** were perceived to have more important safety implications than theoretical knowledge.
- Consider driver-knowledge improvement options within a **Safe System** view

General road users:

- General perception that NZ drivers have **poor knowledge** of rules/behaviours
- **Low motivation** for drivers to ***improve*** their knowledge if not required to

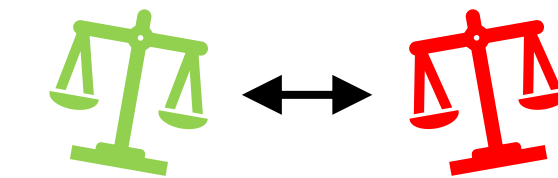
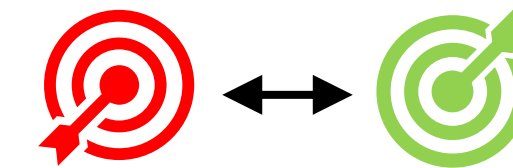
Feedback: Potential Options to Improve Driver Knowledge

Effectiveness

Feasibility

Acceptability

1. Knowledge communications campaigns



2. Knowledge checks in driver training (older or commercial drivers)



3. Optional knowledge refreshers/courses



4. Knowledge test for tourists / new migrants with visas / NZers returning to NZ



5. Compulsory knowledge refresher at relicensing (not linked to licence retention)



6. Compulsory knowledge test at relicensing (linked to licence retention)



Conclusions

- There is **limited evidence** about whether drivers lose knowledge over time, and how well drivers adapt to new rules/TCDs
- ***Years held a licence*** is **not** a strong determinant of knowledge about road rules and TCDs
- Older rules/TCDs are better understood than newer ones
- Ensure road environments & TCDs are **easy to understand and intuitive**
- There are **driver knowledge interventions** that could be readily applied to the NZ context



Thank You!

Any Questions?

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For more information about this project, scan the QR Code link below:



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