

## **An overview of Victoria's new drive test: The GLS context and summary of results.**

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### **Keywords**

Licence test, driving test, test development, young driver safety, graduated licensing

### **Abstract**

This paper provides an overview of the new drive test required to gain a driver licence introduced in Victoria from 1 July 2008 as part of a new graduated licensing system.

### **Victoria's new Graduated Licensing System**

To address the consistently high crash rate of young drivers, a new graduated licensing system has been introduced between 2007 and 2008, with key measures including:

- 1 January 2007 – strengthened anti-drink driving measures
- 1 July 2007 – a longer minimum learner permit period for young learners (increased from 6 to 12 months), as well as a requirement to gain a minimum 120 hours supervised driving experience (with 10 hours minimum at night)
- 1 July 2008 – a new drive test, a two stage probationary licence system with a highly restricted P1 licence for the first year of solo driving including a peer passenger restriction, as well as a requirement for a good traffic offence record to progress through the licence stages.

A public discussion paper, Regulatory Impact Statement, and information on the new graduated licensing system are available at [www.gls.arrivealive.vic.gov.au](http://www.gls.arrivealive.vic.gov.au) and this website provides background details for these new changes.

The two key goals of the new graduated licensing system in Victoria are:

1. Better prepared learners, on the one hand, so they are more competent and able to manage the demands of solo driving, through a greater amount and breadth of supervised driving experience
2. More appropriate restrictions and requirements for probationary (intermediate licensed) drivers, on the other hand, so that they drive under conditions commensurate with their maturity, limited driving experience and high crash risk. Graduated licensing reduces exposure to high risk driving activities for this high risk group.

Some of the key safety goals which the new graduated licensing system attempts to address are summarised in Figure 1 below.

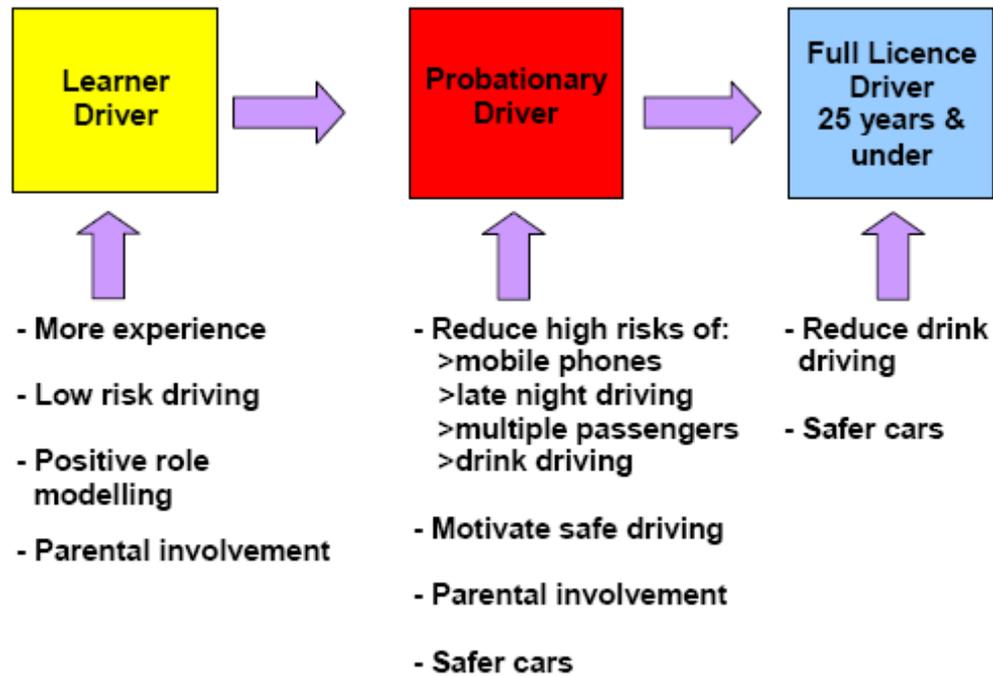


Figure 1. Safety goals for safer younger drivers and graduated licensing.

Within this new graduated licensing context, the new drive test aims to:

- Provide an improved gateway between learner (supervised driving which is relatively safe) and probationary driving (unsupervised but with restrictions)
- Provide an improved assessment of driving competence to determine if the novice driver can progress from supervised (learner) driving to unsupervised (probationary) driving – this transition is the most dangerous period for drivers across motorised countries (refer Figure 2 below)
- Motivate learners to actually achieve the required minimum 120 hours supervised driving experience.
- Influence driving instructors and supervising drivers to focus on safety-related driving performance for novice drivers.

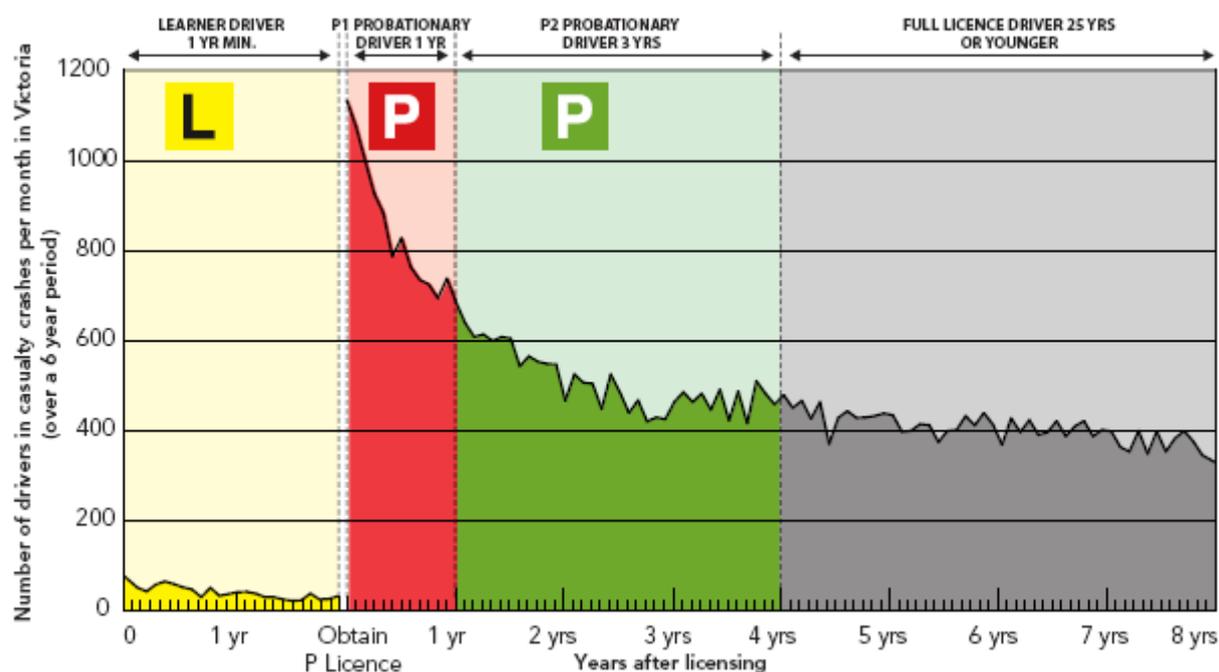


Figure 2. Crash profile of new drivers in Victoria and licence stages in the new graduated licensing system in Victoria

### Why did Victoria need a new driving test?

Victoria's road safety agencies have been promoting extended learner driver practice for many years, through mass media campaigns, sponsorships, licensing materials and community based education programs. For almost ten years, Victoria been strongly encouraging learners and their supervising drivers to voluntarily aim for at least 120 hours of supervised experience in a range of driving and road conditions. Many in the community have accepted these public education messages as there has been a steady yearly increase in the number of hours of learner driver practice.

In 2006, the Victorian Government announced a new Graduated Licensing System (GLS), which included a requirement to complete at least 120 hours of supervised on-road driving practice, including a minimum of 10 hours at night. All learners aged under 21 years when applying for their probationary licence must comply with this requirement by documenting their driving practice in the official VicRoads Learner Log Book. The Logbook is essentially an honour system and cannot be objectively verified, although logbooks are scrutinised, checked and rejected where there is evidence of incomplete driving experience or lack of a supervisor's endorsement. It was expected that the new requirement would result in an increase in the amount of experience accrued by learners who might not currently gain sufficient driving practice. Further, the Victorian Government stated that it would review and seek to improve the on-road driving test to support the new 120 hour requirement.

Prior to 1 July 2008, licence applicants in Victoria were required to pass the Programmed Observation Licensing Assessment (POLA). POLA was introduced in 1992 and was developed at a time when learner drivers were attending their licence test with considerably less supervised driving experience. Anecdotal evidence suggested that learners with much less than 120 hours of experience were able to pass POLA. Hence it was necessary to review and improve the capacity of the driving test to better assess driving performance in critical areas and a learner's driving experience (to be consistent with the 120 hour requirement).

In reviewing the current driving test and looking for possible improvements, VicRoads sought to take a broad reaching approach. VicRoads aimed to design the new test using new road safety research and information, and the experiences and practices of interstate and international jurisdictions. To assist with the development process, VicRoads formed a group of young driver experts who had expertise in driver behaviour, young driver crashes, skill acquisition, human factors and practical licence test development experience. VicRoads sought to bring together various views and expertise to ensure each issue was sufficiently examined and debated before making final decisions.

VicRoads also sought the direct input of VicRoads operational staff (such as licence testing officers (LTOs) and Customer Service Centre (CSC) managers) through in-car trials with Victorian learner drivers. These trials conducted across the state yielded the critical evidence which was used to shape the final content of the new test.

Initially, the magnitude of the challenge of developing a new and more valid safety-related test was expressed by some members of the expert group. It was argued by some that driving tests have notoriously poorly capability to produce direct road safety benefits and that the implementation timelines did not allow for sufficient trialling. There were also pressures to finalise test content early in order to train LTOs, operational staff, and develop publications and to commence communications with stakeholders.

However, the over-riding aim for the project was for a robust, evidence-based test which would offer the best means to support the 120 hour requirement. The new graduated licensing system offered the rare opportunity to develop a more rigorous licence test that would not only motivate learners to gain more practice, but ensure that learners can better deal with the demands of solo driving.

### **Vision for the new Drive Test**

The vision for the new test was to develop a test that would assess critical driving skills, that could be fairly applied across the state and that was relevant for current Victorian licence applicants, that is, a driving test that could help to discriminate between licence applicants who have completed the mandatory 120 hours of supervised driving practice from those who have not. VicRoads and the expert group was not aware of any other jurisdictions with an on-road test that was specifically developed to assess learner drivers with relatively high levels of supervised experience. A strong focus was also placed on the safety of licence test applicants, testing officers, driving instructors and other road users during the licence testing process.

### **Bringing together expertise**

VicRoads approached a range of local, interstate and international novice driver experts to become involved in the expert group for the development of the new drive test. The aim of VicRoads was to utilise the expertise of the group from the test's inception through to the introduction of the test and finally to determine any refinements once the test became operational. By continuing to engage with the expert group through all the phases of the test development and introduction, it has been possible to ensure the integrity and intent of the test is maintained as it is implemented across the state.

A larger expert group contributed mainly at the commencement of the project and the overall project methodology, whilst a smaller sub-group assisted throughout the total project.

Participation in these groups remained relatively stable. The members of the expert group included Kerryn Alexander (Kerryn Alexander Research), John Catchpole (ARRB Group), Ron Christie (RCSC Services), Warren Harrison (Eastern Professional Services), Wendy Macdonald (La Trobe University), Dan Mayhew (Traffic Injury Research Foundation in Canada), Peter Palamara (Curtin University) and Tom Triggs (MUARC).

The sub-group of experts was formed in order to assist with the development of key documents and materials, the test item constructs and framework, data analysis, assessment criteria, research tools and input into supporting materials, which helped to accelerate the project to meet its tight timelines. The expert sub-group consisted of John Catchpole, Ron Christie, Warren Harrison, Wendy Macdonald, and Tom Triggs. Darryl Johnston (DCS Consulting) provided a reality check for the sub-group and trained the LTOs for the trials. Kelly Imberger (ARRB Group) was also heavily involved in assisting VicRoads with the trialling and materials development.

This was a unique opportunity for the members of expert group and sub-group on several levels. VicRoads had created the opportunity for these experts, from separate organisations, to work collaboratively to make a much stronger link between available research and the development of a new drive test. Expert knowledge of driving behaviours, young driver issues, skill acquisition and human factors was shared in the expert group, and these experts also gained the opportunity to be directly involved in the development of their suggestions into practical applications statewide. Although there was considerable effort involved in bringing together and managing an expert group, there was strong collaboration among the experts and the quality and evidence-base for the new drive test was enhanced greatly by this approach.

The role of the experts was to make recommendations concerning the general structure and content of the test and the structure of the test development and trialling project to ensure the test would meet VicRoads' requirements. While the responsibility regarding final decisions regarding test content remained with VicRoads, the expert group made some critical suggestions which has determined the current design of the new Drive Test.

### **Overview of the test**

- The test has two parts or stages. The new test includes an initial on-road screening test that ensures the learner driver is ready to complete the full on-road test. This initial screening test assesses basic on-road car control skills, and has OH&S concerns as its main justification. Learners cannot move onto the full on-road test if they fail this screening test. Assessed performance on the screening test will also contribute to the learner's overall test result.
- The central purpose of the test should be to discriminate reliably between learners with more than 120 hours experience and those with less experience (say less than 80 hours). The test needed to have high face and construct validity as an assessment of safety-related behaviours and skills.
- The test items or tasks in the first (screening) stage of the test should relate to skills in less complex conditions. The items or tasks in the second stage of the test relate to more-realistic and busy everyday driving situations and were identified or developed based on consideration of the key cognitive processes and skills that underlie safe driving [1].

### **Trialling and Development**

It was determined early that the development of the new test should include in-car, on-road trials with Victorian learner drivers, whose driving performance would be observed and assessed by licence testing officers. Despite the logistical, resource and practical challenges involved in conducting these trials, we believed that the benefits would outweigh the cost and the potential delay in finalising the content of the new test. The benefits included ensuring that the test was based on research and evidence, was calibrated to current Victorian learner drivers, and it also provided a measure of confidence to VicRoads staff that the test was soundly-based on research and involved the direct input of their peers.

The trialling was conducted at various VicRoads Customer Service Centre (CSC) offices across the state. Driving instructors were recruited to the trial, to provide a dual control car. They were instructed to intervene in the trial assessment whenever there was a safety concern, much as they would if they were conducting a driving lesson. Learners were recruited across the state, based on their self-reported level of driving practice. All learner participants were paid for their time. A total of 1300 learners participated in the trials. This therefore involved more than 1300 hours of on-road trialling with learners over eight months, as well as some mini-pilots to assist in the development of the trials.

### **Three Phases of In-Car Trialling**

The Phase 1 Trial involved the development of the screening component of the licence test. Its purpose was to ensure that learner drivers attending for the on-road test have sufficient car control and road-craft skills in less challenging driving conditions to be safe during the more-complex second stage of the test. The performance of Victoria's exiting POLA test was also assessed through the Phase 1 trial.

Phase 1 involved trialling the selected items from the Californian Driving Performance Evaluation (DPE), the New Zealand Full Licence Test (FLT) and Victoria's POLA. These items were trialled with inexperienced and experienced learner drivers, and selected items were calibrated against experience.

The Phase 1 Trial was conducted at Carlton (inner metropolitan Melbourne), Frankston (outer metropolitan Melbourne) and Morwell (small regional centre). Five VicRoads Licence Testing Officers (LTOs) conducted the assessment after taking part in a training program. A total of 352 Victorian learners completed the Phase 1 Trial.

The Phase 2 Trial involved the development of the second stage of the licence test. This stage was designed to attempt to discriminate between learners with 120 hours of experience and learners with less experience. Potential items for this stage were developed by VicRoads and the expert group based on research, key novice driver crash types and safety-related skill problems, safe-driving constructs, and skill acquisition theory [1]. The Phase 2 trial calibrated items against indicators of learner experience and other measures with the intention of informing decisions about the selection of items that discriminate between learners with sufficient and insufficient experience.

The Phase 2 Trial was conducted at Carlton (inner metropolitan Melbourne), Frankston (outer metropolitan Melbourne) and Morwell (small regional centre.) Five VicRoads Licence Testing Officers (LTOs) conducted the assessment after taking part in a specially designed training program. A total of 434 Victorian learners completed the Phase 2 Trial.

The Phase 3 Trial was a trial of the prototype test (the screening stage and the main stage of the test) with Victorian learners to assess the ability of the first stage of the test to provide a safety screen, the ability of the test to discriminate between learners with moderate and high levels of experience, and to assist with setting an appropriate pass criteria.

The Phase 3 Trial was conducted at Carlton (inner metropolitan Melbourne), Frankston (outer metropolitan Melbourne), Morwell (small regional centre), Bundoora (suburban Melbourne), Bendigo (large regional centre) and Geelong (the second largest city in Victoria). Ten VicRoads Licence Testing Officers (LTOs) conducted the assessment after taking part in a specially designed training program. A total of 523 Victorian learners completed the Phase 3 Trial.

### **Outcomes of test – Overall Key Findings**

The new drive test provides a better picture of the licence applicant's driving ability, compared to Victoria's previous test, POLA. The new Drive Test differs from POLA, in that it is a longer test, has three tiers of assessment, involves more challenging road and traffic situations and is based on trials with 1300 Victorian learner drivers [2]. However the most important aspect of the new test is that based on the results of the trial, Victoria's new Drive Test not only has a high level of reliability, but performance on the test as a whole is indicative of levels of total learner experience, and particularly learner experience in challenging driving situations.

The trial results were analysed using the Rasch approach [3]. Using this approach items were selected based on the self-reported experience of learners in challenging driving situations, such as driving on 100km/h roads, in the wet and at night. It was hypothesised that supervising drivers generally allow learners into challenging driving situations if they have high amounts of overall experience and appear to be safe – and thus the amount of experience in these situations is a surrogate for overall experience and driving competence. As shown in Figure 3 below, the results from the trial indeed found a correlation between higher learner driver experience in total and higher levels of experience in challenging driving situations. Figure 3 shows that reported experience in challenging driving conditions increases considerably for learners reporting total average experience of 110 hours or greater.

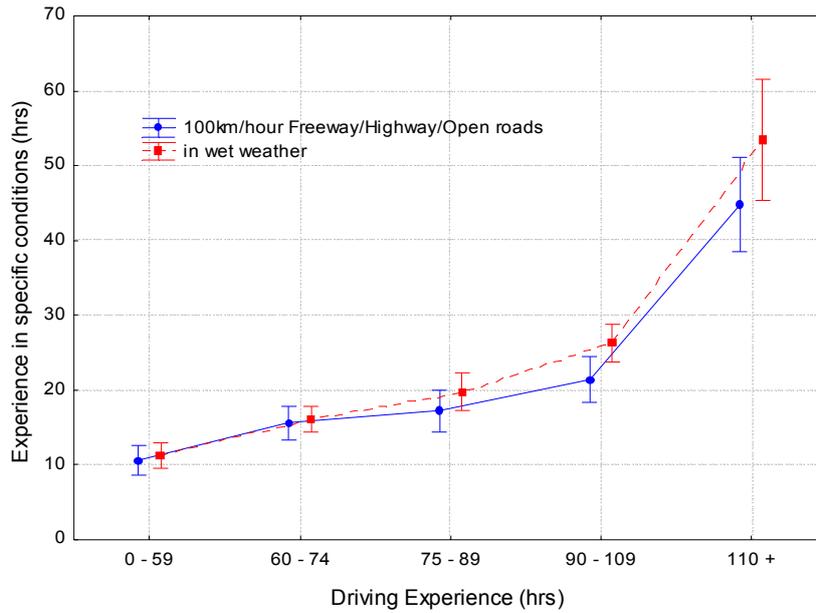


Figure 3. Relationship between total learner driver experience and experience in specific challenging driving conditions.

The key finding from the Phase 2 trial was that learners with higher scores on the selected test items had higher levels of driving experience, and higher levels of experience at night, in rain and on high-speed roads. Figure 4 below illustrates that performance on the test, based on the results of the trial, is able to differentiate between learners with relatively high levels of experience in challenging driving situations and those without. Total amount of learner practice maps correspondingly onto this relationship between test performance and learner driving experience indicators.

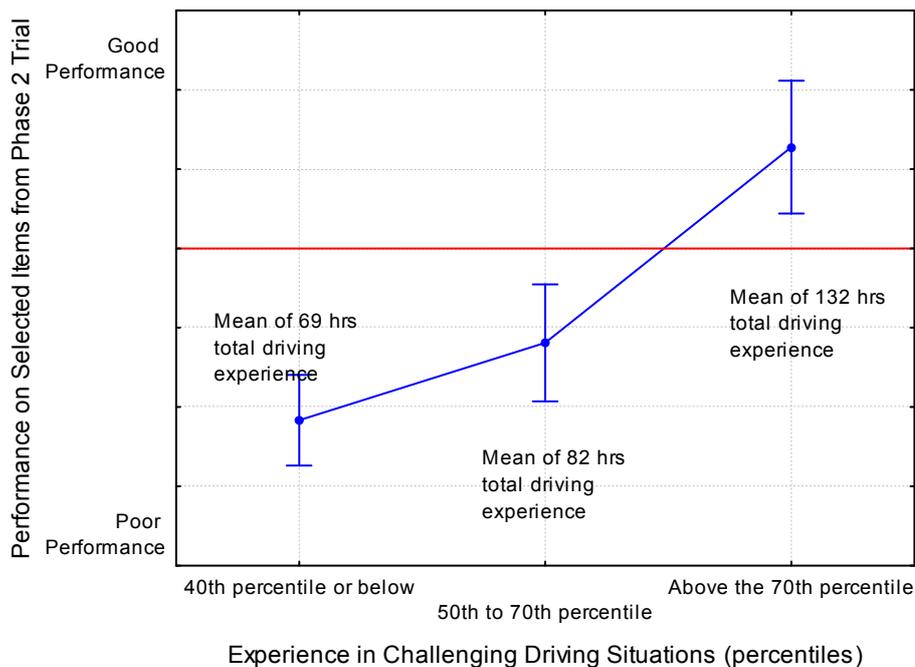


Figure 4. Performance on selected test items and driving experience

## Summary of Test

Briefly Victoria's new Drive Test is conducted in a variety of traffic and road conditions, where the applicant's driving ability is assessed in the following key safety areas:

- Observation
- Signalling
- Speed choice
- Selection of safe gaps when turning and merging
- Following distance
- Lane and stop position
- Control and smooth braking
- Parking

The new Drive Test also has a new scoring approach. The outcome of the test does not depend on

a single test score – it depends on three tiers of assessment [2]. Test Scoring involves:

- Immediate Termination Errors – the applicant does something to create an unsafe situation – the applicant immediately fails and the test is terminated
- Critical errors - a serious driving error which does not create an *immediate* danger – repetition of this behaviour will fail the applicant and terminate the test
- Points accumulated for correctly and safely demonstrating key driving skills when completing specific driving tasks.

The concept of critical errors was a new component to the drive test. Under POLA only one class of errors were recorded and these errors resulted in an immediate fail. There were several reasons for introducing this new class of errors. One of the reasons for introducing the new concept of *critical errors* was that work undertaken in the United Kingdom found a relationship between post licence crash risk and errors committed during the driving test [5]. This suggests that errors may provide an indicator of post-licence crash risk [5], even though some experts have indicated that errors in isolation may not provide good discrimination in driving competence for more experienced novices [2]. The Phase 3 trial found that critical errors as defined in Victoria's new drive test were relatively common among learners in the trial. In addition, the Phase 3 trial found a relationship between the number of critical errors committed and the need for a safety related intervention. Hence it was considered essential to monitor the level of critical errors by the licence applicant to help assess their ability to drive independently in a safe manner, and to provide a trigger for terminating the test for those who show a pattern of such errors emerging.

### Implementation of Victoria's new Drive Test.

Based on these results, which were replicated in Phase 3 Trial, VicRoads has been communicating clearly with learners, supervising drivers, driving instructors and the public that:

Licence applicants are more likely to pass the new test if they:

- have at least 120 hours of driving experience
- have lots of experience in a broad range of different driving conditions – such as at night, in wet weather, and on different types of roads.

- can drive safely and legally in different driving situations – such as in normal busy traffic, at intersections and on multi-laned roads.

The new Drive Test has been operational for four months. VicRoads has been undertaking close monitoring of the test's performance across the state and thus far the implementation has been considered a success. It is anticipated that there will be further refinements which are inevitable when a large scale drive test is introduced across a jurisdiction.

Further information regarding the process of implementing the new drive test is detailed in the paper by Christie et al. [4].

### **Conclusion**

A systematic applied research project was undertaken in Victoria over two years to develop Victoria's new drive test. The new test is based on young driver safety, test development, and human factors knowledge and expertise, and extensive real-world trials with Victorian learner drivers with varying levels of driving experience.

The approach has led to the development and implementation of a new in-car drive test used for mass licence testing across Victoria, with a stronger evidence-base to support and complement the new graduated licensing system.

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