Roads Australia Fellowship Program

Gran's On Board: Elevating Young Driver Behaviour for Safer Roads Across Australia

Roads Australia Fellowship Group VIC 4

- Scott Henning – HDR
- Rahman Mahmood – Pitt & Sherry
- Christian Rogers – Inland Rail
- Yasmin Roper – Arup
- Gretta Stewart – John Holland
- Ewan Watson – FSC Group
- Krystal Williams – North East Link State Tolling Corporation

Contents

1 Executive Summary

Road safety among young drivers is a significant challenge in Australia. Although drivers aged 17 to 25 years of age make up only a small proportion of the licensed population, they account for almost a quarter of all road fatalities. The transition from supervised (L-plate) to unsupervised (P-plate) driving is a particularly high-risk period, as the removal of active parental supervision often leads to lapses in safe driving behaviours and increased risk-taking.

To address this issue, the Roads Australia Fellowship Group VIC 4 proposes Gran's On Board, an innovative app designed to promote safer driving habits among learner and probationary drivers. The app simulates the guidance of a trusted supervising figure, "Gran", to encourage preparation, mindfulness, and accountability before, during, and after each drive. By combining pre-drive wellbeing checks, passive trip monitoring, and post-drive feedback, the app fosters positive driving habits while maintaining compliance with existing licensing laws that prohibit phone use while driving.

Grounded in behavioural science, the app leverages monitoring, feedback, and gamification to reinforce safe driving behaviour. Early trials of similar systems, such as the AAMI Safe Driver Rewards app, demonstrate that real-time feedback and friendly competition can effectively influence driver behaviour. Consultations with industry and government stakeholders, including Transurban, AAMI (Suncorp), Road Safety Education, and the Victorian Department of Transport and Planning, confirmed strong support for the concept, emphasising the importance of data privacy, simplicity, and alignment with existing road safety initiatives.

The proposed implementation involves a staged rollout, beginning with prototype development and pilot testing across Victoria, with potential integration into VicRoads' myLearners platform. Through partnerships with insurers, educators, and government agencies, the app could offer incentives for safe driving while maintaining public trust through transparent data protection measures.

Gran's On Board provides a practical, evidence-based approach to reducing crash risk among young drivers. By fostering self-awareness, accountability, and continuous improvement, it aims to instil safer driving habits that endure well beyond the probationary phase, contributing to long-term reductions in road trauma across Australia.

2   Introduction

As part of the 2025 Roads Australia Fellowship Program and the Fellowship Group Project, the fellows have been asked to recommend an innovation in road infrastructure or road technology to improve safety for workers and/or road users.

In considering this project topic, we have identified the problem of road safety amongst young drivers. Our preliminary research indicates that young drivers, particularly probationary drivers, are highly represented in traffic crash statistics. The World Health Organisation reports that road traffic crashes are the leading cause of death for people aged between 5 to 29 years of age (World Health Organization, 2018). Approximately 1.19 million people are killed and 20 to 50 million people will sustain non-fatal injuries around the world each year due to road traffic accidents. On Australian roads, approximately 1,300 people are killed and another 44,000 are seriously injured each year. The Young Driver Factbase notes that drivers aged 17 to 25 represent up to 25% of all road deaths in Australia, despite only accounting for 10 – 15% of the licenced population.

To address the disproportionately high vehicle crash rate for probationary drivers, we believe an innovative and demographically appropriate intervention is required, which will further build upon the success of the graduated licensing system. The proposed intervention addresses the key difference between P-Plate and L-Plate driving, which is the removal of active parent/guardian supervision in the vehicle. Without supervision, probationary licence drivers are more susceptible to risk-taking behaviour and more likely to forget the basic safety checks and safe driving behaviours that all drivers should undertake before driving.

We propose the introduction of an app-based platform to be used by learner and probationary licence holders – known as "Gran's On Board" – to encourage pre-drive preparation, monitoring of new driver behaviour, and to provide post-drive feedback. The aim of this app is to:

- provide additional oversight and feedback to learner licence holders;
- retain a sense of oversight and supervision to probationary licence holders;
- positively influence driving behaviour in the immediate term; and
- establish and embed positive driving behaviours in the long-term.

The Gran's On Board app is named to invoke a sense behavioural responsibility. Grandmothers are thought of as both caring and as having expectations of their grandchildren behaving properly. Grandmothers may also be frail and averse to physically uncomfortable driving. By opening the Gran's On Board app, the user interface will inspire the driver to consider "would you drive that way if your Gran was riding alongside you?"

3 Problem Statement

Despite young drivers increasingly delaying or avoiding obtaining a driver's license, this group still accounts for nearly a quarter of all road fatalities (National Safety Council, 2021). The Australian Road Deaths Database (ARDD) provides basic details of road traffic crash fatalities in Australia, as reported by the police each month to the State and Territory road safety authorities. Figure 1 below demonstrates that the group between 17 to 25 years of age suffer high deaths per capita rates and high fatality rate per population size. It is noted that this is when young people begin to travel in cars independently without supervision.
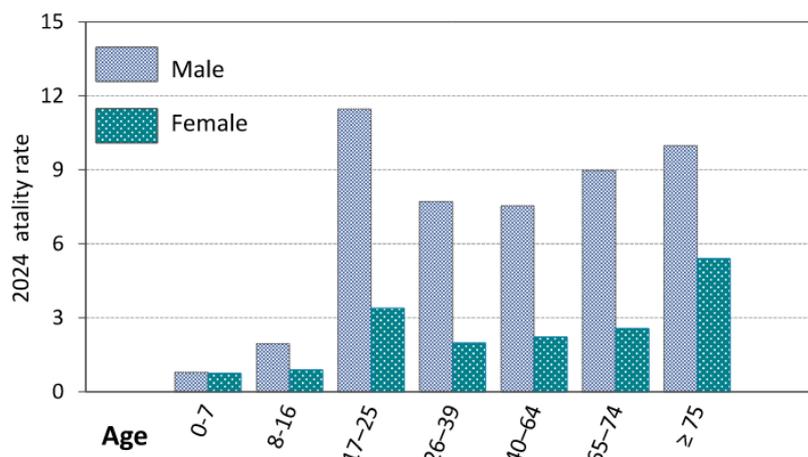
Figure 1: Road death rate per 100,000 population by age and gender, 2024 (Commonwealth of Australia, 2025)

In Victoria, Australia, P-Platers are 33 times more likely than L-Platers to be involved in a traffic crash resulting in a casualty (VicRoads, 2015).

Figure 2 indicates that the risk is at its highest in the first 12 months of obtaining a P-Plate license. The key difference between P-Plate and L-Plate driving is the removal of active parent/guardian supervision in the vehicle. Without supervision, P-Plate drivers are more susceptible to risk-taking behaviour and more likely to forget the basic safety checks and safe driving behaviours that all drivers should undertake before driving.

This over-representation of young drivers in road trauma statistics highlights a need for further intervention to support positive driver behaviour and safe driving practices, to further build upon the graduated licensing system in each state and territory in Australia. The graduated licensing system is an evidenced based program designed to assist inexperienced drivers acquire the skills and experience needed to drive safely. The graduated licensing systems are effective in reducing crashes among young drivers (VicRoads, 2017). However, data continues to represent young drivers amongst the most vulnerable, with a mortality rate that was twice the national average (ITF, 2025).
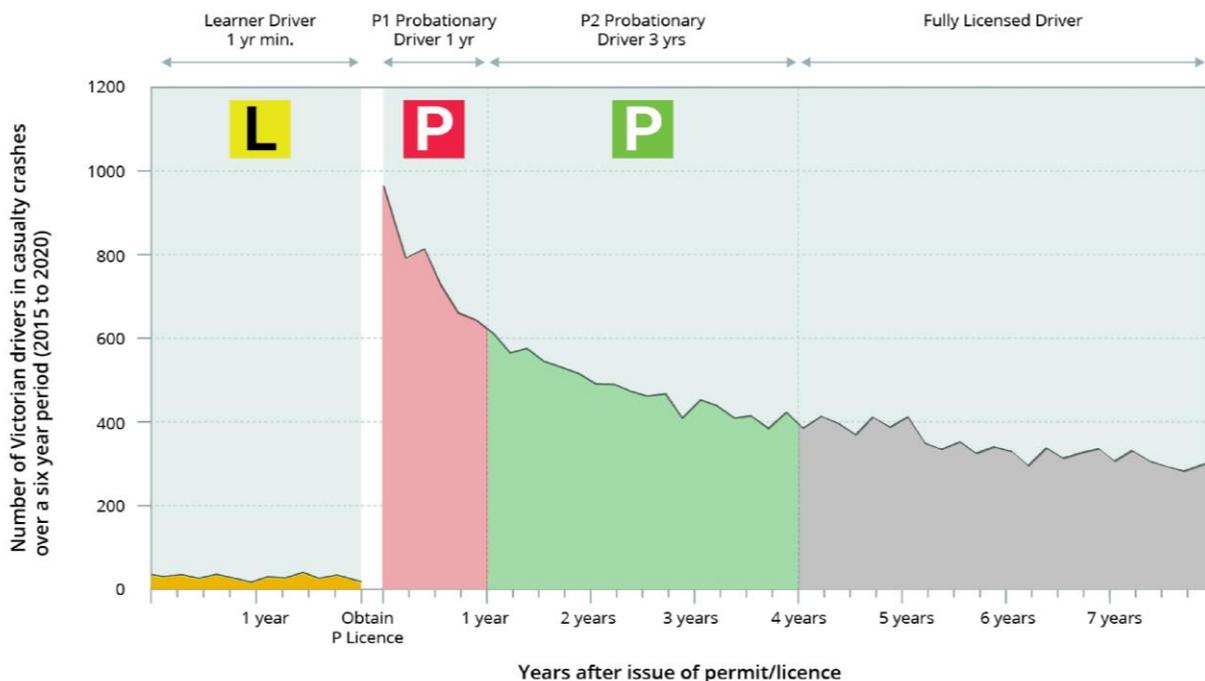
Figure 2: Casualty crash risk changes from Ls to Ps (VicRoads, 2015)

4   Proposal & Concept

The Gran's On Board app is designed to instil safe driving behaviours and habits and provide additional remote supervision to the driver. "Gran" will check in with the driver to ensure preparedness to drive and inspire the driver to behave in a conservative and peaceful manner. It is envisioned that this mindset will have broadly reaching benefits. For example:

- The app prompts the driver with questions focused on "are you OK today? Are you mentally ready to drive Gran around?"
- With its built-in continuous drive monitoring, the driver will know that Gran is observing them and will provide feedback after the drive.
- Post-drive feedback is shared by Gran with their parent/guardian, which will discourage poor driving behaviour.

The Gran's On Board app would be used by learner and probationary licence holders. In the case of learner licence holders, the intention is that the app provides a sense of enhanced

oversight to the parent/guardian. Following the successful completion of the learner licence requirements and graduating to the first stage of the probationary licence, it is intended that, by using the app, the probationary licence holder would retain a sense of oversight and being actively monitored.

Young drivers are at a formative stage in their learning and development in terms of driving skills, behaviour, and habit formation. The Gran's On Board app is accordingly designed to target this group, including to positively influence driving behaviour in the immediate term, and establish and embed positive driving behaviours for the long-term. Targeting young drivers in this way presents a unique opportunity for immediate road safety improvements that will last into the future.

The Gran's On Board app is designed to support safer driving habits through monitoring, self-assessment, and behavioural feedback. Preliminary features are outlined below (refer to Section 5 for detailed design concepts):

- A pre-drive check-in to prompt health and wellbeing reflections—either through self-assessment or integration with wearable health technology;
- Monitoring key driving metrics (e.g., vehicle speed, acceleration, and deceleration rates); and
- Gamified feedback features to encourage positive driving behaviours, compliance, and goal achievement.

The app will be available as a free download for smartphones and will comprise three main components, providing a staged approach to achieving a safe drive.

4.1   Part 1 – Planning a Safe Drive

Part 1 prompts the driver to take key steps in preparing for a safe trip. These prompts are aligned with road safety education principles and local legislation. Example questions include:

- Are you under the influence of drugs and/or alcohol?
- Have you had adequate rest to complete your journey safely?
- Are you calm and focused enough to drive?
- Do you know your route?
- Have you left enough time to travel to your destination?
- Have you planned rest stops at least every two hours?
- Have you set up your phone safely in compliance with your licence conditions (e.g., enabling *Do Not Disturb* mode)?

If the driver provides an unfavourable response to any question, the app will suggest an appropriate action before driving. Suggestions may include considering alternative transport or completing a short, guided breathing exercise (linked directly within the app). It can also provide reminders such as "Being late does not justify speeding. Before driving, can you contact anyone to let them know you're running behind to put your mind at ease."

4.2   Part 2 – Undertaking a Safe Drive

Once the planning stage is completed, Part 2 activates the Safe Drive Mode, which mirrors and enhances existing *Do Not Disturb* smartphone functions. Key features include:

- Disabling notifications and incoming calls during the trip;
- Activating a drive recording mode to monitor:
    - Minor speeding (over 10 km/h above the limit);
    - Excessive speeding (25 km/h over the limit or above 130 km/h);
    - Aggressive braking, acceleration, turning, or cornering;
    - Phone handling or usage during the trip; and
    - Continuous driving for more than two hours without a break.

4.3   Part 3 – Safe Drive History

Part 3 records each trip and compiles a history of planning and driving data. A safety score is assigned based on adherence to safe driving behaviours and completion of planning checks. Users will receive weekly performance summaries highlighting their score and areas for improvement.

Gamification will further enhance engagement by enabling friendly competition between family members and friends who use the app. Possible incentive structures are discussed in Section 5.

5   The App – Functionality and Outputs

Gran's On Board leverages existing technology adapted for use by inexperienced drivers undertaking the graduated licensing program in Victoria through VicRoads. The original plan was to target probationary license holders only. However, following consultation with industry it became apparent that it would be beneficial to also include learner license holders as part of the target cohort, to encourage familiarity and participation.

When an L-Plate driver graduates to a P-Plate driver, the functionality and focus of Gran's On Board will then transition to be focused only on driver safety and skills once the driver no longer requires a supervising driver. The app will perform some of the functions that a supervising driver would undertake, such as providing feedback and suggestions based on past drives.

The foundation of Gran's On Board is its ability to support safe driving behaviours through a structured journey that begins even before the car moves. A critical element of the application is the pre-drive check, which requires drivers to reflect on their readiness and the conditions of their journey. Before commencing a trip, the app prompts users with questions related to fatigue, alcohol or drug use, emotional state, route planning, and rest breaks. This stage draws from existing road safety education principles and ensures that young drivers consider their physical and mental preparedness before driving. In addition, the app can leverage data from wearable devices such as Fitbit or Apple Watch to provide objective insights into sleep quality, stress levels, or other health indicators that may impact safe driving. These inputs help drivers

make more informed decisions, reinforcing the importance of self-assessment before starting a journey.

Independent App that is free for users to download

Once a trip begins, the app activates a dedicated "Do Not Disturb" driving mode
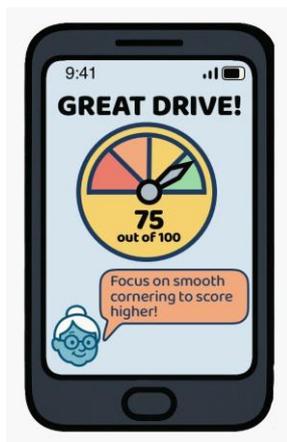
Provides a driving score and feedback on key metrics for each drive

Option to compare scores with family, supervisors, and friends

Figure 3 Grans On Board App functionality

Once a trip begins, the app activates a dedicated "Do Not Disturb" driving mode, in line with restrictions for learner and probationary licence holders across Australian states. This function ensures compliance with licensing laws by disabling notifications and preventing phone use while driving. The app operates passively in the background during trips, recording data without requiring interaction from the driver, thereby avoiding the risks associated with distraction and ensuring legislative alignment.

During the drive, the app monitors key behavioural metrics, including speed, acceleration, braking, cornering, and phone use. These measures form the basis of a personalised driving score, with each trip assessed to highlight both safe practices and areas for improvement. At the conclusion of each journey, drivers receive tailored feedback and constructive

recommendations to support safer behaviours. The app's design emphasises positive reinforcement, encouraging drivers to improve without the sense of punitive monitoring.

To further strengthen engagement, Gran's On Board incorporates gamification. Drivers can compare their scores with peers, family members, or supervisors, using friendly competition to encourage safer practices. Incentives or prizes can be offered to safe drivers The app also features a separate interface for parents and supervising drivers to enable access to driver reports, providing a level of secondary review that promotes accountability and constructive discussion within families.

Complementing these features, the app includes manual input options that allow drivers to record subjective factors such as stress or emotional wellbeing. By combining these manual reflections with wearable data, the app builds a holistic picture of driver readiness and provides timely advice on whether it is safe to proceed with a trip.

The system also includes functionality to identify when the user is not the driver, ensuring that driving scores are accurately attributed to supervising drivers when necessary. Over time, users can track their progress through graphical outputs, which provide a clear, visual representation of improvements across key metrics and reinforce the benefits of adopting safer driving behaviours.

By integrating pre-drive safety checks, enforcing "Do Not Disturb" conditions consistent with Australian licensing laws, and combining behavioural monitoring with wellbeing insights, Gran's On Board offers a comprehensive platform that educates, guides, and empowers young drivers. This holistic approach not only promotes compliance but also encourages long-term behavioural change, helping to embed safer driving habits into Australia's next generation of road users.

6 Research

The research informing Gran's On Board adopted a mixed-methods approach to ensure the concept was evidence-based, aligned with behavioural science, and relevant to the Australian licensing and road safety context. Three key streams of inquiry were undertaken: literature review, industry consultation, and testing through case study.

6.1 Review of Driver Behaviour

A comprehensive review of academic and industry research was conducted to identify the key risk factors affecting young drivers and the behavioural interventions most likely to improve outcomes. Sources included studies on adolescent neurodevelopment (Steinberg, 2008), risk perception and peer influence (Romer, Reyna, & Satterthwaite, 2017), and the effectiveness of telematics and gamification for behaviour change (Koivisto & Hamari, 2019; Meuleners et al., 2023). This review provided the theoretical foundation for the app's design, particularly in relation to monitoring, feedback, and reinforcement of safe driving habits.

Enhancing road safety for young drivers calls for a strategy that draws from behavioural science, crash data analysis, international case studies, and the integration of emerging

technologies. Initial research has pinpointed five crucial areas that form the basis for our proposed incentive-based program.

6.1.1   Behavioural psychology and neurodevelopment

Cognitive neuroscience shows that the prefrontal cortex, responsible for decision-making, impulse control, and future planning, continues developing well into the mid-20s (Steinberg, 2008). This underdevelopment increases susceptibility to risk-taking and poor judgement, especially under peer pressure or emotional stress. As highlighted by Romer et al. (2017), young drivers are more likely to act impulsively or misjudge hazards due to immature cognitive control mechanisms. These findings validate the need for behavioural interventions that reinforce safe driving habits during this neurodevelopmental window.

The Hawthorne effect, which describes how individuals modify an aspect of their behaviour in response to their awareness of being observed, is particularly relevant in the context of driver's behaviour. When inexperienced drivers know they are being monitored, for instance through telematics or in-car feedback systems, they are more likely to adopt safer driving habits. This heightened awareness can lead to more cautious driving, better adherence to traffic rules, and overall improved road safety. By leveraging the Hawthorne effect, programs aimed at inexperienced drivers, such as the "Gran's On Board" initiative, can effectively reduce risky driving behaviours and enhance long-term safety outcomes.

Research indicates that consistent behaviours and habits can lead to lasting changes through the creation and reinforcement of neural pathways. According to neuroscientific studies, repeated actions can strengthen synaptic connections in the brain, making certain behaviours more automatic and engrained over time. This process, often referred to as synaptic plasticity, underscores the importance of consistent practice and positive reinforcement in establishing safe driving habits among inexperienced drivers. By engaging in safe driving behaviours consistently, novice drivers can develop long-term habits that enhance their decision-making and impulse control, leading to improved road safety outcomes.

6.1.2   Gamification and behaviour change

Gamification has emerged as a viable method for promoting positive behaviour across domains including health, education, and mobility. Peer-reviewed studies such as Koivisto and Hamari (2019) found that game elements like feedback loops, rewards, and progress tracking can increase engagement and promote sustained behavioural change. When applied to driver safety, gamification can make abstract road rules more tangible by linking them to real-time behavioural feedback and goal achievement.

A field study of a gamified learner driver logbook app found that adding game elements (such as a virtual road trip, achievements, and friendly competition) significantly increased enjoyment and motivation for young drivers. However, this increased engagement did not translate into more practice hours, or greater diversity of driving experiences compared to a non-gamified version. The study highlights that while gamification can make mandatory safety tasks more appealing, it does not guarantee behaviour change - especially when external factors (like supervisor availability and the mandatory nature of the task) play a strong

role. The gamified app was well received, did not negatively impact usability, and was not seen as distracting or unsafe by most participants.

SLEEP-RO@D is an innovative digital serious game developed to address the critical link between sleep hygiene and road safety. Recognizing that excessive daytime sleepiness (EDS) and poor sleep quality are major contributors to road crashes, especially among workers and professional drivers, the game aims to educate users about healthy sleep habits and their direct impact on driving performance and crash risk.

The game allows players to create a personalized avatar (customized by age, gender, chronotype, occupation, and more) and make choices about sleep-related behaviours before a simulated workday involving driving. These choices, such as sleep duration, use of electronic devices before bed, or consumption of caffeine and alcohol, directly affect the avatar's cognitive and motor abilities in the game. Players experience the consequences of poor sleep through their avatar's performance, including increased risk of falling asleep at the wheel and causing a crash.

SLEEP-RO@D incorporates evidence-based content from scientific literature on sleep, health, and driving, and provides real-time feedback and recommendations based on player decisions. The game was tested on a diverse sample of 154 participants, most of whom were unfamiliar with serious games. Results showed that 87% of participants rated the user experience as very good or pleasurable, and the game was effective in raising awareness about the importance of sleep for both road safety and general health (Pietrafesa et al. 2024).

Gamification elements such as points, feedback, challenges, and immersive storytelling were used to engage players and reinforce learning. The study found that integrating educational content into gameplay can foster subconscious acquisition of positive behaviours, making SLEEP-RO@D a promising tool for workplace safety programs and broader road safety campaigns. The authors highlight the potential for digital gamification to balance learning and entertainment, supporting the development of safer attitudes and habits among drivers (Pietrafesa et al. 2024).

6.1.3   Young driver risk and crash behaviour

One of the most effective strategies in improving young driver safety has been the implementation of the graduated licensing system. This system allows inexperienced drivers to gain experience and develop their skills progressively, and introduces driving privileges in stages, starting with strict supervision, followed by a probationary license with restrictions, before finally granting a full license. Statistics have shown that drivers who go through this system are less likely to be involved in serious crashes, as they are better equipped to handle the complexities of driving, reducing the incidence of reckless driving and improved overall road safety outcomes.

Young novice drivers remain disproportionately involved in crashes during their first year of unsupervised driving. Oxley et al. (2014) identified key factors contributing to this elevated risk, including inexperience, overconfidence, poor hazard anticipation, and cognitive overload under stress. Their review also emphasises that current licensing frameworks may not adequately prepare inexperienced drivers for complex real-world conditions. These insights

suggest that a behaviour-monitoring system, especially one that supports reflective learning, and positive reinforcement could fill a critical gap in the licensing journey.

Transitioning from a learner's permit to a probationary license marks a significant increase in traffic crashes among young drivers, due to the absence of direct supervision from parents or guardians, who play a crucial role in moderating risky behaviours. According to Romer et al. (2017), the incidence of traffic crashes rises sharply as novice drivers acquire probationary licenses, with statistics underscoring that P-Platers are 33 times more likely to be involved in a traffic crash compared to their L-Plater counterparts. This heightened risk is particularly pronounced during the initial 12 months of obtaining a P-Plate license, a period characterized by a greater propensity for risk-taking and a lapse in adhering to fundamental safety practices (Steinberg, 2008). These findings highlight the critical need for targeted interventions to mitigate the dangers inherent in this transitional phase of driving.

6.1.4   International Evidence

Recent studies have confirmed the effectiveness of telematics in reducing risky driving behaviours in the UK. Meuleners et al. (2023) found that telematics-based feedback, such as, alerts for hard braking, speeding, and rapid acceleration, led to measurable improvements in driving behaviour among young drivers in a real-world trial. Their study highlights the value of personalised, real-time data in helping young drivers' self-correct risky habits and increasing awareness over time. This approach aligns well with an incentive-based safety model tied to digital performance metrics.

6.1.5   Digital integration opportunities in Victoria

Existing platforms such as VicRoads' myLearners app offer a starting point for integration. Building on these digital foundations, a unified platform that incorporates real-time behaviour data, rewards, and milestone tracking could enhance engagement and transparency. Regan, Young, and Lee (2003) found that feedback-based systems, especially when delivered through digital means, are effective in reinforcing safe driving habits in novice drivers.

6.2   Industry Consultation

Targeted engagement with stakeholders offered practical insights into driver behaviour, technology feasibility, and policy challenges. Consultation was undertaken with:

- Road Safety Education (RSE): to align the app with existing youth-focused road safety education programs and understand social and emotional influences on driving.
- Elizabeth Waller – Head of Road Safety, Transurban (formerly of VicRoads and Transport Accident Commission): to gain a holistic assessment of the proposed solution by leveraging the various road safety environments that Liz has worked in while engaging with her as a young driver expert.
- Suncorp (AAMI Safe Driver Rewards): to evaluate functionality, adoption, and data-use challenges in comparable telematics-based applications.
- Victorian Department of Transport and Planning (DTP): to explore opportunities for integration within the graduated licensing system and assess policy and regulatory implications.

6.2.1 Road Safety Education

Road Safety Education Limited (RSE) is a not-for-profit organisation with a commitment to the reduction of road trauma through the delivery of evidence-based road safety education programs. Their flagship program, RYDA, has been providing novice drivers and their passengers throughout Australia and New Zealand, with lifesaving knowledge and skills for over fifteen years. We spoke with their General Manager – Education & Information, Brooke O'Donnell, who shared valuable insight into the mindset of young drivers.

Brooke described that the RYDA program revolves around building resilience in young drivers. She stressed that they must be prepared to face challenges on the road, and that the greatest challenges are not generally associated with the operation of the vehicle but instead are associated with social and emotional factors that contribute to the decision-making process, or when the driver is operating in adverse conditions. These factors include:

- Passengers in the car
  - Resisting participation in distracting behaviour
  - Passengers encouraging risky choices
  - Preparing young drivers to ask passengers not to distract them, or to speak up if they observe risky behaviour
- Physical Environment
  - Music
  - Adverse weather
  - Vehicle malfunction
- Emotional state of the driver
  - Running late, feeling rushed. RSE teaches the drivers that being late does not cause risky driving, but rather how the driver feels about being late. This encourages drivers to control their emotions
  - Driving after an emotional situation
    - Fights with family or friends
    - Relationship issues
    - Disappointing news

In the context of recognising these social and emotional factors are threats to road safety, the training that RSE provides young drivers stresses the importance of "checking your mind state" before driving.

As such, Brooke noted that their "check your mind state" recommendation correlates well with the "Gran's On Board" pre-drive check-in feature. Brooke suggested that the pre-drive check-in can include aspects that revolve around identifying the potential challenges that may be faced during the drive (noted above) and preparing the driver mentally to operate the vehicle. She suggested features such as:

- Deep breathing to reduce stress and increase focus
- Do Not Disturb driver mode activation within the app

Finally, Brooke provided feedback to maximise adoption and participation within the app. She thought that gamification was a promising idea but suggested that it is critical to understand

that P-Plate drivers are motivated more by short-term rewards. While young drivers know that safety is important, they also think they are invincible. For this reason, she suggested that the gamification and interaction with the app could include teams or other ways to positively leverage peer pressure.

Brooke also shared that RSE had previously approached the department of transportation to explore whether young driver participation in the RYDA driver training program could be rewarded within the L-Plate and P-Plate graduated licensing system. The consistent answer was that reducing time on L-Plates or P-Plates will not be supported.

Brooke responded that RSE is interested in exploring a potential partnership or collaboration with the app, provided it aligns with their objectives. It was discussed that the app could potentially be used by RYDA participants and included as a tool to help establish and maintain safe driving behaviours.

6.2.2   Elizabeth Waller – Head of Road Safety, Transurban

The discussion emphasized the importance of integrating safety initiatives early in the learner driver journey, particularly during the L-plater phase. It was noted that learners typically undertake 7–11 paid driving lessons, with supervising drivers often involved in early sessions. Incentivizing these supervisors—potentially through licence or registration discounts—was recommended to reinforce safe driving habits.

The conversation highlighted the effectiveness of reward-based programs, such as Victoria's free licence system for P-platers with clean records. Liz expressed scepticism toward past initiatives that lacked behavioural links and encouraged the group to research and embed behaviour change methods into the proposed application. She advocated for more meaningful incentives, including carbon offset contributions, retail vouchers, private health insurance discounts, and bank deals, aligning with young people's values and financial priorities.

A forward-looking recommendation involved leveraging AI and vehicle data to personalize safety prompts. By linking users to their vehicle's VIN, apps could tailor messages and feature suggestions, e.g., prompting speed control settings based on observed driving behaviour. The potential for smarter, vehicle-specific notifications was seen to enhance user engagement and safety outcomes.

The discussion explored the value of anonymized data sharing between government and private entities. Such data could inform infrastructure upgrades and safety campaigns, with Transurban already contributing de-identified speed data to agencies like Vic Police.

The consultation underscored the need to present a clear roadmap for the app's evolution, referencing existing models like the AAMI app. The team was encouraged to articulate current capabilities, desired applications, and long-term possibilities. Integration with the L-plater digital logbook was identified as the optimal entry point, with informal outreach to DTP and TAC suggested for initial feedback.

6.2.3 AAMI Safe Driver Rewards (Suncorp)

Monitoring driver behaviour is a key feature of the Gran's On Board app and is critical to achieving the app's core purpose, which is to simulate the L-Plate environment in which inexperienced drivers are both supervised and supported during their drives. Our industry research found an app provided by the insurance company AAMI (parent company Suncorp) that monitors driver behaviour as part of a safe driver rewards program. To learn more about the app's functionality, development, features, and adoption rate, we consulted with Mary Kennedy, Portfolio Strategy and Design Manager at Suncorp Group, and Lachlan Rees, Manager – Government, Industry and Public Policy at Suncorp Group.

Our discussion with Mary and Lachlan started with an overview of the AAMI safe driver app's functionality, scoring, and rewards features. Highlights included the following:

- The app uses A.I. and constant location tracking to automatically detect when you have started a drive. It can discern between driving and other transportation modes (cycling, transit, etc.) However, the user can correct the app if a drive is inaccurately recorded.
- No user interaction with the app is required, including before, during, or after a drive.
- Each drive is scored, and the user is provided with a score based on their drives over a 2-week rolling cycle (Figure 2 below)
- While driving the app monitors unsafe driving actions that include speeding, phone use, rapid acceleration and braking, and aggressive cornering. A breakdown of these scores is provided as feedback, and the locations of recorded negative actions is provided on a map of the drive.
- Drivers with AAMI policies and who are enrolled in the safe driver rewards program are eligible for rewards such as gift vouchers from participating partners.
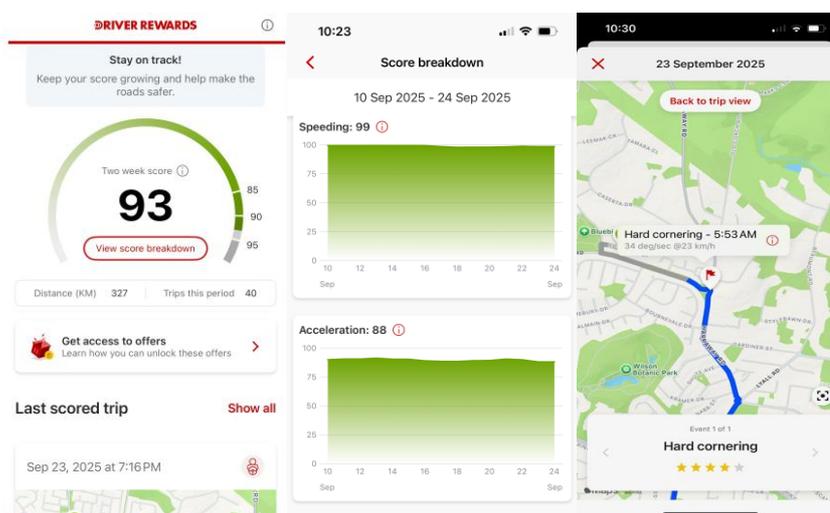
Figure 4 AAMI app

Mary concluded the discussion on functionality by sharing that anyone can sign up to use the AAMI app, but only AAMI customers can sign up for the rewards program. This prompted our team to sign up for the app to evaluate its functionality and use it as a case study for Gran's On Board (refer Section 4.8)

Following discussions on functionality, we sought feedback on the AAMI app's adoption rate and effectiveness. Mary and Lachlan shared that they were unsure of the percentage of customers who use that app. However, 2024 press AAMI release showed that AAMI app reveals drivers are driving more safely, also, show that 39% of drivers using the safe driver rewards app show an improvement in their safe driving over time (AAMI, 2024).

Finally, we discussed what sort of consultation AAMI has with government or licensing agencies, including how the data that is collected is used. Lachlan shared that AAMI has previously had discussions with government agencies that included the app's functionality and data. Some of Lachlan's feedback included a perceived difficulty towards linking such an app with any sort of legislative changes. Challenges associated with this include privacy around location tracking, along with storage and use of the data.

6.2.4   Victoria Department of Transport and Planning

During the initial brainstorming of the Gran's On Board app, we identified that partnering with government agencies is key to maximising use of the app. The departments of transportation have implemented a graduated licensing system across Australia, and this system would potentially enable them to link the use of the Gran's On Board app to progression in the P-Plate program. In this context, we consulted with three members of the Victorian Department of Transport and Planning (DTP) to understand the licensing framework and to explore what opportunities may exist for DTP to endorse, or even mandate, use of the app as part of the licensing process. Our team met with Frances Taylor, Director Road Safety Policy, Programs and Partnerships, and Louise Purcell, Manager Licensing and Access, and Vish Khera, A/Executive Director – Registration & Licensing Management. After explaining our objectives and intended functionality of the app, they provided feedback concerning its functionality and potential endorsement by DTP.

Regarding functionality, Frances and Louise encouraged a measured approach to gamification of the drive tracking and noted that we should give consideration as to how young people may interact with the app. For example, they suggested that a cohort may seek to inversely utilise the gamification feature resulting in a perverse outcome of competing for lower scores compared to their peers. This may be avoided if negative feedback and scoring is provided in a way that delivers constructive criticism without recognising or glorifying excessively poor behaviour.

Frances and Louise also noted that phone use is prohibited at certain levels of L-Plate and P-Plate driving. We discussed that the proposed design for our app can achieve this and promote it through the pre-drive check-in feature, which can have a build in link to the Do Not Disturb driving mode.

Another suggestion was to introduce the app at L-Plate stage. By doing so, L-Plate supervisors can help work with the driver on their pre-drive check-ins and the supervisor's feedback can be supported by the drive tracking. Likewise, this begins to embed the safe driving behaviours earlier in their road safety education.

Moving on to discussion around endorsement or legislative changes, a consistent message was provided that the graduated licensing system that has been implemented is rooted in

extensive research and that it is proving effective. On that basis, linking use of the Gran's On Board app to rewards such as "less time on P-Plates" is not an option.

The team did indicate that DTP could be open to other avenues of endorsement, such as providing financial incentives. For this to occur, we would need to provide proof of concept and demonstrate the road safety benefits. Should a measurable improvement in road safety occur, DTP indicated that any funding for the program could potentially be sourced from other agencies that bear the burden of costs related to road crashes.

6.3 Existing Apps

There are multiple apps available for public use that cover the brief of driver safety improvement application, however there are few that have widespread engagement or are available/applicable to Australia. The two apps that stand out most closely resembling the intent of Gran's On Board are the AAMI Safe driver app and the MyDriveHero app.

The AAMI safe driver app is embedded within the AAMI app and is incorporated into a program where AAMI members can earn rewards if they keep their driver score above a certain threshold. The app works through using mobile phone measurements to give a driver a score for every trip they undertake. The score, which is presented as a numerical score out of 100, is made up of the following performance metrics: Speeding, Cornering, Acceleration, Deceleration, and mobile phone use. These measurements are recorded by mobile phone sensors using a combination of GPS, gyroscope, and input detection. Once enabled, the recording of the trip is automatically activated with an Ai algorithm used to determine whether the user is active as the driver, passenger or in some other mode of transport i.e., bicycle. The app is free for anyone to sign up, however the rewards are only available to AAMI insurance members.

The MyDriveHero app is another driver safety app that uses gamification and cash rewards as the key incentives for participating. Like the AAMI safe driver app, MyDriveHero automatically detects when you start and stop driving and calculates your driving score based on vehicle speed and distractions. The app does not appear to use any further metrics to determine safe driver score. Depending on your score you then have the option to 'bank' the value of your trip to a cash rewards pool. The MyDriveHero app has a paid premium service or an unpaid version which contains frequent ads. Being a commercial app, reviews and comments frequently mention a lack of trust in how the company handles user data with several users/forums noting that they have cancelled or not signed up for the app on this basis.

In addition to apps available for public use, there are several commercial apps targeted at promoting safer driving however a large number of companies utilise in-built In Vehicle Monitoring Systems (IVMS) which provide similar data and serve the similar purpose of ensuring drivers are complying with predetermined driving parameters. The benefit of these systems is that they are centralised, consistent and 'always on,' however there is a large upfront cost to set up.

From the initial review of existing apps there are couple of key takeaways. First is that almost all modern phones have the technology to accurately track key driving metrics required to

make Gran's on Board a success. Second is that there is a general reluctance in take-up of these apps due to a lack of trust in how the tracking data collected will be utilised.

6.4   Privacy and Data Use

The question of privacy and data use is central to the feasibility and acceptance of Gran's On Board. For the app to be embraced by young drivers, their families, and government stakeholders, it must demonstrate compliance with National and State privacy standards, address concerns around location tracking, and establish trust in how information will be managed and shared.

6.4.1   Victorian Pilot Consideration

In Victoria, the Department of Transport and Planning (DTP) has expressed caution regarding any digital tool that might encourage phone interaction during driving or raise concerns around data handling. The Gran's On Board app, if integrated into the VicRoads myLearners digital logbook, would need to comply with both the Privacy and Data Protection Act 2014 (Vic) and the Australian Privacy Principles (APPs) under federal law. This dual compliance framework requires that any personal or behavioural data be collected for a clear purpose, stored securely, and not disclosed without explicit consent.

6.4.2   Transparency, Consent, and Family Involvement

Unlike traditional telematics tools targeted at adult drivers, Gran's On Board directly involves novice drivers, many of whom are still minors or newly licensed. Therefore, families play a critical role in shaping trust and adoption. Parents and guardians are often the supervisors of L-platers and may act as decision-makers regarding app use. To address this, the app must:

- Provide clear, accessible privacy statements that explain what data is collected and why.
- Allow both drivers and families to review trip data together, fostering constructive conversations rather than punitive monitoring.
- Offer opt-in features for sharing data beyond the driver-supervisor relationship, ensuring that families retain control over who can see behavioural feedback.

6.4.3   Data Minimisation and Sharing Safeguards

Young drivers are among the most sensitive cohorts when it comes to perceptions of surveillance. Research into existing apps, such as AAMI Safe Driver Rewards, shows that constant location tracking and 24/7 access deter continued use. To avoid similar barriers, Gran's On Board should adopt a data minimisation approach:

- Collect only metrics essential to safe driving behaviour (speed, acceleration, phone use, braking).
- Limit continuous GPS tracking, to summarise each trip instead of detailed route histories.
- Ensure that any sharing of data with third parties, such as insurers, researchers, or government agencies, is based on explicit, informed consent.

6.4.4 Security and Public Trust

All data must be encrypted during transmission and storage, ideally hosted within Australian data centres to maintain local jurisdictional oversight. Importantly, communicating these safeguards is as critical as implementing them; if young drivers and their families perceive the app as a "tracking tool" rather than a safety enabler, uptake will be limited. Embedding privacy-by-design principles from the outset is essential to reassure the public that the app exists to improve safety, not to monitor movements.

6.4.5 Scaling Beyond Victoria

Although Victoria provides the logical starting point due to its mature digital licensing infrastructure (myLearners), any successful pilot could be extended nationally. Each jurisdiction would require compliance with its own privacy framework, but alignment with the APPs provides a consistent baseline. Expansion would also present opportunities to engage national insurers, road safety bodies, and education programs to integrate incentives while maintaining strict privacy protections.

6.4.6 Industry Feedback on Data Collection and Use

Through consultation with both private and public industry stakeholders, it became apparent that there was a divergence between the two, with feedback from DTP that there is reluctance to collect and use data in this manner.

6.5 Case Study and Testing - AAMI Safe Driver Rewards

During the project phase, the team decided to test one of the available apps to gauge its effectiveness and useability. The team chose to trial the AAMI driver rewards app given it is free to sign up and solely utilises mobile phone data to determine a safe driving score. Throughout the first week, the team allowed the app to track all of these drives and compared driver scores at the end of the week with the goal of determining how the app affects their driving behaviour (and more importantly, to determine who was the 'best' driver on the team!).

Following the week, the team shared observations on how using the app had changed their driving behaviour. Key observations included:

- Several team members noted that knowing the app was monitoring driver behaviour had significantly reduced the desire to interact with their phone whilst driving (even when using hands free).
- One team member also noted that they received feedback of excessive acceleration at a certain location on their routine drives. They reflected that this area has poor road design that often requires quick decision (braking/acceleration) due to poor sightlines.
- One team member shared that, when using maps, he has become more diligent about entering the destination address before starting the drive, rather than interacting with the hands-free to start maps while on the drive.
- Several observed that they are more conscious of their braking, acceleration, and cornering, noting that they are consciously trying to drive "smoother" to maximise their safe driver score and win the competition.

- Throughout the week, the team enjoyed sharing screenshots of their Safe Driving Score. Friendly trash-talk then ensued, demonstrating the effectiveness of gamification and social pressures toward influencing participation and driver behaviour.

Overall, the team universally agreed that the app fulfilled its purpose of monitoring drives and providing feedback, which is a target function of Gran's On Board. The app was highly effective at automatically detecting when the user was driving and at managing to distinguish between the app user being a passenger or using alternative modes of transportation. The team noticed that there is an opportunity to manually delete drives from your score, which is a potential challenge to link the scoring system to rewards and will require consideration.

One of the deterrents to adopting the AAMI app is that the app requires permanent access to phone location services, effectively giving the app owner access to your location 24/7. When considering whether we would continue using the app after the case study, the concern around this data privacy was a cause for some team members to suggest that they would delete the app.

This practical evaluation revealed that passive monitoring and gamification encouraged safer driving behaviours within the team, while also highlighting barriers such as privacy concerns and data access requirements. These insights directly informed recommendations for app design, particularly the need for non-intrusive feedback mechanisms, transparent data use, and strong privacy protections.

The case study provided a great window into the potential functionality and effectiveness of the Gran's On Board app for young drivers. As stated above, the gamification was effective even in the absence of potentially earning rewards. By creating competition amongst the group, we were motivated to practice better driving habits. This shows that gamification can be effective for young drivers also and may be more effective when combined with social and commercial incentives.

Last, it demonstrated that an existing technology could be integrated into the Gran's On Board app that achieves many parts of the core mission including monitoring of driver behaviour and providing feedback. Further, the app causes no driver distraction, which is critical.

By triangulating findings from literature, industry perspectives, and hands-on case study analysis, the methodology ensured that Gran's On Board was both evidence-driven and grounded in real-world considerations. This approach strengthened the project's recommendations, balancing behavioural science with policy feasibility and user experience.

7   Implementation

Research indicates that many platforms exist with similar features to the proposed design for Gran's On Board. However, existing platforms lack the targeted goal and state transport department interaction that Gran's On Board seeks to achieve.

Implementation of the Gran's On Board app will include a multi-faceted approach that provides young drivers with training, tasks, encouraging reminders, and rewards throughout their early

years operating a vehicle. Through partnerships with government agencies, interaction with the Gran's On Board app could include a variety of compulsory and optional participation. Gran's On Board will be structured and scalable so that it can be implemented for L-Plate, P-Plate, and fully licenced drivers.

7.1 Implementation Plan

The implementation of the Gran's On Board app requires a carefully structured, multi-phased process that balances innovation with practical application. The approach must ensure technical robustness, compliance with road safety legislation, and widespread accessibility to young drivers, while also building trust among families, regulators, and industry partners. The implementation plan would build upon the work and research already undertaken to date described in this paper. The proposed implementation of Gran's On Board will be led be Roads Australia and executed with industry partnerships. The implementation is suggested to follow the following steps.
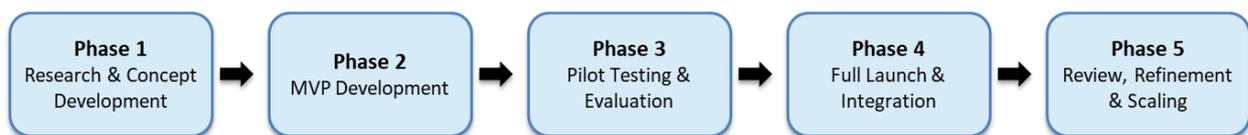
Phase 1 Research & Concept Development	Phase 2 MVP Development	Phase 3 Pilot Testing & Evaluation	Phase 4 Full Launch & Integration	Phase 5 Review, Refinement & Scaling

Figure 5 Project phases

The first stage of implementation is the research and concept development phase, which is expected to span the initial three months. During this period, the project team will conduct in-depth user research through focus groups with learner and probationary drivers, their parents, or guardians, and driving instructors. This research will help uncover behavioural motivators, barriers to adoption, and perceptions of digital monitoring. At the same time, further consultation with key stakeholders, including VicRoads, the Victorian Department of Transport and Planning (DTP), and Road Safety Education (RSE), will ensure that the proposed app aligns with existing licensing frameworks and road safety campaigns. Competitor analysis of similar apps will inform the design process, while initial prototypes and wireframes will be developed to capture feedback on functionality, usability, and engagement features.

The second phase involves the development of a Minimum Viable Product (MVP) over a four-to-five-month period. This version will include the app's essential functions: pre-drive self-check prompts, passive monitoring of speed, acceleration, braking and phone handling, and post-drive feedback reports. Gamification elements, such as badges and safe driving streaks, will also be included to encourage engagement. At this stage, the technical infrastructure will be established with Australian-based servers to ensure compliance with local privacy regulations. Privacy-by-design principles will underpin all development, incorporating explicit opt-in mechanisms for data sharing and family participation features. Internal testing will be conducted with the project team and early adopter volunteers to refine performance and usability.

The third stage, pilot testing and evaluation, will run over a two-to-three-month period with a selected group of 100 to 500 learner and probationary drivers from both metropolitan and regional Victoria. This stage will allow the project team to test the MVP in a real-world environment, collecting behavioural data, usage statistics, and feedback on ease of use,

privacy perceptions, and motivational features. Partnerships with insurers and education providers will be trialed to test the effectiveness of reward mechanisms in encouraging uptake. Findings from this stage will inform refinements ahead of the full launch.

The fourth stage, the full launch and integration phase, will take place over six months. The app will be released publicly through iOS and Android app stores, supported by a targeted marketing campaign directed at young drivers and their families. Public awareness campaigns in collaboration with the Transport Accident Commission (TAC) and RSE will further strengthen engagement and reinforce consistent messaging about safe driving practices.

Governance throughout the implementation process will be provided by a steering committee comprising Roads Australia, VicRoads, insurers, and RSE. This body will be responsible for oversight, risk management, and accountability at a state level. Key risks such as privacy concerns, low adoption rates, technological reliability, and misuse of gamification features will be identified and actively mitigated through strong safeguards, transparent communication, and adaptive app design. Through this structured approach, *Gran's On Board* will be implemented in a way that maximises its potential to improve road safety outcomes for young drivers while laying the foundation for long-term scalability.

7.2 Cost and Accessibility

The development and maintenance of a behavioural monitoring app involves substantial financial outlay. Estimates for the research, development, pilot, and launch phases place initial costs between AUD $410,000 and $1 million, with ongoing annual maintenance of $80,000–$200,000 (refer to implementation section for cost breakdown). Ensuring the app remains free to download and use is critical for equitable access. To offset costs, government funding from DTP would be pursued, as it has been indicated that funding is available for initiatives such as Gran's On Board if safety outcomes can be substantiated. Additional funding from insurance partnerships and road safety program integration could be explored.

Accessibility also extends to digital equity, as regional and lower-income young drivers may have limited access to newer smartphones or consistent mobile data coverage, necessitating an app that functions on a wide range of devices with minimal data demands (Oxley et al., 2014).

Table 1:Initial Cost Analysis

Phase	Key Activities	Duration	Estimated Cost (AUD)
Phase 1 Research & Concept Development	User research, stakeholder consultation, competitor benchmarking, prototype design.	Months 1-3	$50k - $120k
Phase 2 MVP Development	Develop core app features, establish infrastructure, embed privacy-by-design, internal testing.	Months 4-8	$150k - $350k
Phase 3 Pilot Testing & Evaluation	Pilot with 100-00 drivers, collect behavioural and usage data, trial insurer/education integration.	Months 9-11	$30k - $80k
Phase 4 Full Launch & Integration	Public launch on iOS/Android, marketing,	Months 12-18	$100k - $250k
Phase 5 Review, Refinement & Scaling	Update to include Independent evaluation, feature enhancements integrate with VicRoads myLearners, (wearables, crash detection), national rollout, continuous improvement, partnerships for rewards.	Months 19-24+	$80k -200k per year (ongoing)

7.3   Barriers and Considerations

The introduction of Gran's On Board presents clear potential to improve young driver behaviour; however, several barriers and considerations must be addressed to ensure safe adoption, sustained engagement, and policy alignment. These challenges highlight the need to balance innovation with practical road safety imperatives.

7.3.1   Safety Hazards of App Interaction

A primary concern is that mobile phone use while driving is a well-established contributor to crash risk (Regan, Young, & Lee, 2003). The graduated licensing systems across Australian jurisdictions prohibit phone use for L- and P-plate drivers, including hands-free functions (VicRoads, 2025). Any app requiring interaction during driving could therefore create legal conflict and safety risks. To mitigate this, Gran's On Board must operate passively in the background once a trip begins, leveraging automated trip detection and integrating with smartphone "Do Not Disturb" modes. Interaction should be limited to pre-drive and post-drive reflections, ensuring alignment with existing legislation and avoiding distractions.

7.3.2   Integration with Older Vehicles

Unlike commercial fleet systems that rely on in-vehicle monitoring units (IVMS), young drivers are more likely to operate older, less technologically equipped vehicles. Relying solely on

smartphone sensors, such as GPS, accelerometers, and gyroscopes, ensures broad applicability but raises questions around data accuracy. Reviews of existing phone-based applications and the case study undertaken by the team indicate that the accuracy is adequate for the apps intended usage. Studies highlight that telematics-based feedback is most effective when consistent and precise (Meuleners, Fraser, Stevenson, & Roberts, 2023). Therefore, algorithms must be calibrated to ensure consistent scoring across diverse vehicle conditions, so that a driver of a 20-year-old car is not unfairly penalised compared to one driving a new vehicle.

7.3.3   Overlap with Road Safety Campaigns

Another important consideration is how Gran's On Board aligns with existing road safety initiatives that already target distraction and risky driving behaviour. Campaigns such as the Transport Accident Commission's (TAC) "Towards Zero" strategy and the national "Don't TXT and Drive" campaigns highlight the dangers of mobile phone use behind the wheel, particularly for young drivers. At the same time, not-for-profit programs such as Road Safety Education's RYDA workshops focus on resilience, peer pressure, and decision-making in high-risk situations (About RSE, 2025).

To avoid conflicting messages, Gran's On Board must be positioned as a complementary tool. The app does not encourage interaction while driving; instead, it reinforces campaign messages by embedding pre-drive checklists, disabling notifications during trips, and using post-drive feedback to raise awareness of unsafe habits. By supporting the same objectives as these established campaigns, reducing distraction, encouraging focus, and promoting safe choices, the app can be seen as an extension of broader education and enforcement efforts rather than a competing initiative. There is an opportunity for Gran's On Board to become an integrated component of existing campaigns and messaging.

Clear communication and alignment with existing messaging will be essential to build public trust and ensure that stakeholders view Gran's On Board as part of the wider road safety ecosystem, not as a contradictory measure.

7.3.4   Driver Engagement and Uptake

Motivating voluntary adoption among young drivers is a challenge. Research shows that young people recognise the importance of safety but often underestimate personal risk and are driven by short-term rewards (Romer, Reyna, & Satterthwaite, 2017). Gamification, through points, badges, and peer comparison, has been proven to increase engagement (Koivisto & Hamari, 2019). However, care must be taken to prevent counter-productive behaviours, such as intentionally seeking low scores for amusement. Constructive feedback loops, social or financial incentives, and integration with peer or family networks will be key to achieving meaningful engagement while avoiding misuse.

7.3.5   Policy and Enforcement

Finally, large-scale adoption will require policy support. Consultation with the Victorian Department of Transport highlighted that reductions in licence progression time will not be linked to app use; the graduated licensing system is already evidence-based and highly effective. Instead, alternative incentives such as insurance premium discounts, public

transport vouchers, or rewards through state-backed road safety programs may drive uptake. Without such measures, adoption may remain limited to motivated individuals, restricting the program's broader safety impact. Embedding Gran's On Board into existing licensing platforms such as VicRoads' myLearners digital logbook represents a realistic policy pathway for integration (VicRoads, 2025).

7.3.6 Privacy Concerns

A further consideration for the Gran's On Board app is the management of personal and locational data. Young drivers and their families are likely to be cautious about how sensitive behavioural and trip data are captured, stored, and potentially shared with third parties. As highlighted in Section 6.4, issues of transparency, consent, and trust are central to uptake. If the app is perceived as a surveillance tool rather than a safety enabler, adoption rates may suffer. To address this, the app must clearly articulate its data minimisation approach, limiting collection to only those metrics essential for road safety outcomes (e.g., speed, braking, and phone use), while avoiding continuous GPS tracking where possible. Embedding privacy-by-design safeguards—such as encryption, consent-based data sharing, and accessible family-oriented privacy statements—will help to reassure users. Ensuring compliance with both the State privacy legislation and the Australian Privacy Principles is also essential for public confidence and broader government endorsement.

7.4 Future Development / Scalability

The future development of *Gran's On Board* is focused on building a robust, scalable platform that can evolve beyond its initial pilot and become a nationally recognised tool for supporting young driver safety. Beyond the initial implementation, the application has significant potential to grow through deeper integration with government systems nationally, partnerships with industry stakeholders, and the adoption of emerging technologies that support driver wellbeing and behavioral change.

7.4.1 Integration Into The Vicroads' Mylearners Program

One of the most important opportunities for expansion lies in the formal integration of *Gran's On Board* with digital learner logbooks. By embedding the app within existing platforms such as VicRoads' myLearners, the tool can be incorporated as part of the licensing process. This integration not only enhances credibility but also provides young drivers with a seamless experience that aligns with their mandated training and supervision requirements. In doing so, the app becomes more than an optional tool; it is positioned as an accepted and trusted element of the licensing journey.

7.4.2 Private Partnership

Another area for development is the establishment of partnerships with the private sector in areas such as insurance, road safety organisations, and retail partners. By linking safe driving behaviours to tangible rewards such as vouchers, reduced insurance premiums, or public transport credits, the app can offer young drivers meaningful incentives that resonate with their financial priorities and lifestyle. These partnerships also provide opportunities to align the app with broader safety campaigns, reinforcing the consistent message that responsible driving brings both personal and community benefits.

7.4.3   Health and wellness tracking

The integration of health and wellbeing monitoring presents a further avenue for scalability. By linking the Gran's On Board app with popular health apps and wearable devices, such as Fitbit or Apple Watch, the app could draw on sleep patterns, heart rate data, and stress indicators to provide a more holistic picture of driver readiness. Features that prompt drivers to reflect on their sleep quality, emotional state, or general health before a journey would complement existing pre-drive safety checks and encourage self-awareness of physical and mental readiness to drive.

7.4.4   Road safety education

Additionally, future iterations of the app could be more closely aligned with established road safety and driver education programs. Further collaboration with providers such as Road Safety Education (RSE) would enable integration of proven educational content and strategies within the app, providing young drivers with structured learning opportunities in addition to feedback on their driving behaviour. By reinforcing classroom-based education with digital reinforcement, the app would provide a consistent and engaging experience that bridges formal training with everyday driving practice.

In combining these elements, the long-term vision for *Gran's On Board* is a scalable, multifaceted platform that not only monitors and reinforces safe driving but also connects drivers to a broader ecosystem of support, education, and incentives. This integrated approach ensures that the app remains relevant, engaging, and effective as both technology and road safety strategies continue to evolve.

7.5   Roads Australia Victorian Pilot

We propose that Roads Australia is uniquely placed to launch the preliminary rollout of the Gran's On Board app in Victoria. Roads Australia is well placed to more readily overcome issues that may present too great a challenge for other relevant industry stakeholders and entities, for the reasons considered below:

- Roads Australia is a key body within an integrated transport sector, creating opportunities for engagement across transport sectors. The Gran's On Board app will require input and engagement from multiple entities, ranging from Government, private corporations, and non-for-profit community organisations. Roads Australia bridges the gap between public and private sectors and acts as a uniting force to drive collaboration and achieve real outcomes.
- DTP was initially considered to be the most relevant entity to own and operate the Gran's On Board app (as part of the pilot program to be launched in Victoria), including as part of the graduated licensing system. However, following our engagement with DTP it became apparent that DTP may anticipate too many insurmountable issues to make the integration of the app in the graduated licensing system (or otherwise) not viable. For instance, DTP noted that there is a general distrust by the public concerning the provision of personal data to the Government, and that, conversely, the public seem willing to provide such data to private entities.
- AAMI or other insurers were also considered to be relevant entities that could either incorporate the Gran's On Board app into an existing platform, in the case of AAMI, or

launch the Gran's On Board app. However, there would be a degree of investment from the insurer required as part of the implementation. While using the app may entice some drivers to obtain insurance from the insurer offering the app, it would not be required to use the app and, accordingly, the insurer may see little benefit considering the commercial investment required.

- RSE was also considered as the responsible entity for the Gran's On Board app. However, noting the commercial restraints of such an organisation, this was not further considered to be a viable option.

As described further below, we propose that as part of launching the preliminary rollout of the Gran's On Board app, Roads Australia would partner with key industry organisations.

- The Gran's On Board app could be integrated to varying degrees with the various states and territories' graduated licensing systems, including the following:
    - The departments of transport could promote the Gran's On Board app as part of the respective graduated licensing system, as an additional optional resource to be utilised by learner and probationary licence holders. In this scenario, this would simply be an affiliation with no contingencies between graduated licencing systems and use or results of the app.
    - The departments of transport may commit to providing an incentives scheme, in which certain incentives are offered by the departments of transport to the learner and probationary licence holders based on positive results achieved through the Gran's On Board app. Incentives could include carbon offset contributions, retail vouchers, and reduced car registration fees or licencing fees. This scenario would require a degree of integration, including sharing certain data from the app, which could be isolated to the degree of use with the app and the final scores (as opposed to the underlying raw data). Further, the departments of transport would need to obtain inter-Government support for financial incentives to secure funding.
- The Gran's On Board app could include affiliations with insurance companies; whereby financial incentives are offered by the affiliated insurance companies to probationary license holders who:
    - obtain car insurance from the affiliated insurance companies; and
    - agree to share certain data with the affiliated insurance companies.

The benefit to the affiliated insurance companies is that it may increase their respective customer base and they obtain valuable road user data without the need to invest in app infrastructure (as AAMI has done). This would not apply to AAMI as it has already established this platform.

- Partnerships with road safety educators could provide valuable additional:
    - support and resources to the app users; and
    - data and research to support the development and progression of the app.

Further, road safety educators could also promote the Gran's On Board app as part of the respective graduated licensing systems. The benefit to the road safety educators could be

greater visibility of the respective organisations with new and young road users and the potential for greater industry engagement (including with the departments of transport).

8   Conclusion

Gran's On Board is more than an app—it's a transformative solution to one of Australia's most persistent road safety challenges: the disproportionate risk faced by young drivers. Despite representing only a fraction of the licensed population, drivers aged 17–25 account for nearly a quarter of all road fatalities. The transition from supervised to unsupervised driving is a critical period where risk-taking and lapses in safe behaviour spike, with devastating consequences.

This project offers a practical, evidence-based intervention that leverages behavioural science, gamification, and digital innovation to instil safer driving habits. By simulating the guidance of a trusted figure - "Gran" - the app provides pre-drive wellbeing checks, passive trip monitoring, and post-drive feedback, all while respecting legal restrictions on phone use. Case studies and industry consultations confirm that real-time feedback and friendly competition can meaningfully improve driver behaviour. The phased implementation plan is robust, costed, and ready for pilot testing.

Investing in Gran's On Board means supporting a solution that:

- **Addresses a proven need:** Young drivers remain overrepresented in crash statistics, and current licensing systems, while effective, leave gaps in supervision and behavioural reinforcement.
- **Is grounded in research and stakeholder support:** The concept has been validated by leading road safety educators, government agencies, and insurers, all of whom recognize its potential to complement existing initiatives and fill critical gaps.
- **Prioritizes privacy and public trust:** The app is designed with privacy-by-design principles, transparent data use, and family involvement, ensuring broad acceptance and compliance with regulatory standards.
- **Is scalable and sustainable:** With a staged rollout, integration into platforms like VicRoads' myLearners, and partnerships across industry and government, Gran's On Board is positioned for national impact and long-term viability.

Let's drive change together. Support Gran's On Board and catalyse a new era of road safety - one where technology, behavioural science, and community values converge to protect Australia's most vulnerable road users.

9   References

About RSE – Road Safety Education. (2025). *Road Safety Education Ltd.* Retrieved from https://rse.org.au

AAMI. (2024). *AAMI app reveals drivers are driving more safely*. Suncorp Group. Retrieved from https://www.suncorpgroup.com.au

Bureau of Infrastructure and Transport Research Economics (BITRE). (2025). *Road Trauma Australia 2024: Statistical report on fatalities and hospitalised injuries from road crashes in Australia*. Department of Infrastructure, Transport, Regional Development, Communications, Sport and the Arts. Retrieved from https://datahub.roadsafety.gov.au

Commonwealth of Australia. (2025). *Road Trauma Australia 2024: Statistical report on fatalities and hospitalised injuries from road crashes in Australia*. BITRE / Road Safety Data Hub. Retrieved from https://aueprod01ckanstg.blob.core.windows.net/public-catalogue/195f074a-2c62-47d9-89e1-573a6f793b82/Road%20Trauma%20Australia%202024.pdf

ITF (2025), *Australia: Road Safety Country Profile 2024*, OECD Publishing, Paris. Retrieved from https://www.itf-oecd.org/sites/default/files/australia-road-safety.pdf

Koivisto, J., & Hamari, J. (2019). The rise of motivational information systems: A review of gamification research. *International Journal of Information Management, 45*, 191–210. https://doi.org/10.1016/j.ijinfomgt.2018.10.013

Meuleners, L., Fraser, M., Stevenson, M., & Roberts, P. (2023). Personalized driving safety: Using telematics to reduce risky driving behaviour among young drivers. *Journal of Safety Research, 86*, 164–173. https://doi.org/10.1016/j.jsr.2023.02.010

Oxley, J., Young, K., Koppel, S., & Charlton, J. (2014). *Understanding novice driver behaviour: Review of literature.* Monash Injury Research Institute.

Pietrafesa, A., di Dio, C., & Manera, V. (2024). Digital gamification as action to reduce road accidents: The videogame SLEEP-RO@D. *Transportation Research Part F: Traffic Psychology and Behaviour, 99*, 203–218.

Regan, M. A., Young, K. L., & Lee, J. D. (2003). *Driver distraction: A review of the literature* (Report No. 206). Monash University Accident Research Centre.

Road Safety Education Limited (RSE). (2025). *About RSE: Road Safety Education Programs*. Retrieved from https://rse.org.au

Romer, D., Reyna, V. F., & Satterthwaite, T. D. (2017). Beyond stereotypes of adolescent risk taking: Placing the adolescent brain in developmental context. *Developmental Cognitive Neuroscience, 27*, 19–34. https://doi.org/10.1016/j.dcn.2017.01.002

Steinberg, L. (2008). A social neuroscience perspective on adolescent risk-taking. *Developmental Review, 28*(1), 78–106. https://doi.org/10.1016/j.dr.2007.08.002

VicRoads. (2017). *Graduated licensing system effectiveness report.* VicRoads. Retrieved from https://www.vicroads.vic.gov.au

VicRoads. (2025). *myLearners: Staying safe on Ps.* Retrieved from https://mylearners.vic.gov.au/Stages/Stage4/SD-Staying-safe-on-Ps

Whelan, M., & Oxley, J. (n.d.). *Going solo: A resource for parents of P-plate drivers.* Monash University Accident Research Centre.

World Health Organization. (2018). *Global status report on road safety 2018.* World Health Organization. https://www.who.int/publications/i/item/9789241565684

Young Driver Factbase. (n.d.). *Key statistics: Young drivers and road safety.* Retrieved from https://www.youngdriverfactbase.com/key-statistics