



Review of the ACT *Road Ready* and *Road Ready Plus* Novice Driver Road Safety Education Course Material

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Executive Summary

Introduction

This report documents research that was commissioned in order to review the materials used in the *Road Ready* program for relevancy and acceptability to the target audiences as part of the implementation of the ACT Road Safety Strategy Action Plan.

Relevant literature on young driver crash risk and best practice principles in driver education was reviewed as a first step (Section 2). The evidence for effectiveness of driver education programs in Australia was summarised (Section 3) and a separate review of the use of incentives in relation to driver education was performed. The brief called for an expert review of the materials and delivery design for both the *Road Ready* and *Road Ready Plus* programs. This is reported in Section 5, along with the overall recommendations for program improvement. More specific comments on individual modules in the *Road Ready* program are listed at the end of Section 5. Lastly, feedback from stakeholders, specifically the facilitators and teachers of the programs, as well as former students who have completed the *Road Ready* program, was sought. Interviews and surveys were conducted with these groups. Summaries of the methods and findings are contained in Section 6.

Background: Young driver crash risk and driver education

Evidence from most motorised countries consistently demonstrates the increased crash risk of novice drivers in comparison to more experienced drivers. Key issues in young driver safety include increased crash risk and vulnerability, inexperience (e.g. hazard perception), age and developmental factors such as motivation, executive brain function and distraction and intentional risk taking factors such as alcohol and drugs and speeding. Novice driver crash risk is also affected by the characteristics associated with the times they are most likely to be driving and the influence of peer passengers.

Driver education and graduated driver licensing are both intended as measures to increase the safety of young drivers by addressing one or more of the factors identified above. Research has demonstrated that graduated driver licensing systems (GDL) reduce the crash risk for novices. The evidence is less clear and consistent in relation to driver education programs, and while many are offered, evaluation, particularly outcome evaluation is less common. In reviewing specific education programs it is important to take into account the context of the specific GDL in which the program sits as the two interact, with GDL systems affecting how novice drivers learn to drive and whether they participate in formal driver education and training. Further, as novice drivers in Australia are generally aged 16-18 years, programs are most likely to be effective if they recognise the learning needs of this group while also taking into account developmental stage.

In the current report, the *GADGET matrix* (Guarding Automobile Drivers through Guidance Education and Technology), a hierarchical model of best practice in novice driver education was used as a framework for the review of the *Road Ready* and *Road Ready Plus* programs. Best practice in driver education requires that programs address the vital aspects of driver motivation. The *GADGET* model of novice driver education describes four graded stages for the learner/novice to attain: (1) goals for life/skills for living, (2) driving context and goals (strategic), (3) mastery of traffic situations (tactical) and (4) vehicle manoeuvring (operational). For pre-licence drivers and learner drivers, stages (1) and (2) are critical to addressing motivation and raising young driver awareness of risk and the role of behaviour in this.

Expert review of *Road Ready*

Content of the *Road Ready* and *Road Ready Plus* programs were reviewed from the point of view of pedagogy/andragogy and suitability of the delivery methods and techniques for the target audiences as well as the extent to which the program and components of it address the GADGET stages.

Overall, the reviewers concluded that the *Road Ready* program content is mostly consistent with identified best practice principles in relation to pre-learner and learner driver road safety education. Specifically, the content seeks to improve young driver knowledge of safe driving, targets attitudinal change and is primarily aimed at the higher order levels of driving behaviour. Delivery design focusses on interactivity using materials and activities that are likely to be engaging for the target audience. The program designers are to be commended on this. In addition, the ACT Government is to be commended for ensuring good reach of the program by placing it as part of the requirements for learner licensing. Since reach is generally a significant threat to the effectiveness of road safety interventions, the reviewers would support the continuation of this requirement.

The reviewers note that there are areas where program materials could be better aligned with the ACT Road Safety Strategy. In addition, the program modules currently do not address some important aspects of pre-licence education, and in some places adopt an approach that research evidence suggests is ineffective. The reviewers believe there is scope within the program to include additional material that addresses vulnerable road users (e.g. pedestrians, motorcyclists), vehicle factors in relation to safe driving and road use, and best practice principles in supervision of learner practice.

Recommendations

1. Consider reconfiguring some modules (particularly alcohol, drugs modules) and reordering the presentation of the later modules so that students consider risk taking first, then alcohol/drugs, then hazards as this seems more logical and might be better for engagement than the current ordering
2. Video materials should be updated to reduce the distracting elements that currently dilute the messages
3. Presentation of the statistical facts should be revised to present these in a way that will show young driver crash characteristics more clearly
4. Consider including more content and activities in relation to issues of speeding behaviour, distraction, fatigue, seat belt use and vulnerable road users
5. Removal of fear-based material and replacement with more effective materials that invite personal evaluation and choice (see review suggestions in Tables 3-5).
6. Emphasise the need for best practice in supervised learner driving practice
7. Consider inclusion of material that addresses aspects of crashworthiness of vehicles and the role that this plays in young driver injury risk
8. Consideration should be given to the structure and placement of the program in relation to the licensing process
9. Consider including some on-going/formative assessment of whether students are attaining the learning outcomes/goals
10. Funding/resources should be allocated to an outcome evaluation of the effect of the program on crash rates/risk or good surrogate measures of these for novice drivers.

Expert review of *Road Ready Plus*

Overall, *Road Ready Plus* adopts some best practice principles in novice driver education but also incorporates some elements that may be less effective. In particular, the reviewers note the following strengths:

- The program seeks to improve young driver knowledge of safe driving and the factors that improve this
- Targets higher order cognitive, motivational and attitudinal aspects of driving behaviour
- Encourages self-evaluation of attitudes and behavioural choices
- Targets attitudinal change
- Encourages development of hazard perception and situational awareness skills.

However, it was also noted that some content uses material designed to evoke fear and strong negative emotions. This approach has been shown to be ineffective.

Incentive programs

For this project incentive programs used elsewhere in relation to driver education or encouraging safe driver behaviour were reviewed in order to provide comment on incentives currently offered in *Road Ready Plus* as well as suggest future potential incentive programs. While linking incentives to the successful completion of program objectives for participants may not necessarily increase uptake rates for the *Road Ready Plus* program, it is expected that there would be a possible benefit in this approach. Incentives may also be used to encourage desirable driving behaviour following training and, hence, transfer of information learnt during the program to the practical driving situation. The review team believes that the current incentives in place to encourage uptake of the *Road Ready Plus* program are not founded in sound road safety evidence and arguably also do not provide a sufficient level of attractiveness. Unfortunately, there is a lack of evidence for the effectiveness of incentives for the uptake of similar programs, which therefore does not allow firm recommendations to be offered.

Recommendations

1. Modules and facilitator materials could be revised to include intended learning objectives for students for each module stated in terms of what the student will achieve.
2. Module 5 should be substantially modified to incorporate more effective methods of conveying the intended messages or should be removed as the fear-based approach has been shown to be ineffective as a method of achieving behavioural change.
3. Modules 7 and 8 are currently good quality. The reviewers believe that these could be utilised to even greater advantage with some revision of the content and activities.

Stakeholder feedback from teachers/students

Facilitators, teachers and students were invited to provide input into the review via face to face interviews or an on-line survey. A total of 15 facilitators (*Road Ready Centres*) and teachers (State and Anglican schools) and 19 students were interviewed during December 2013 and May 2014.

Key findings: Teacher/facilitator feedback from the interviews

All teachers and facilitators who were interviewed believed the program was a good one, and was effective in raising awareness for young people in relation to the risks and responsibilities of driving, and was of an appropriate length. The program was perceived as highly interactive, engaging students well, and allowing everyone to participate. Activities and content were regarded as pitched at the right level for the age group and as encouraging students to talk to one another as well as to share their views. In addition, the focus on the risk awareness and attitudinal aspects were noted as being strengths of the program.

When asked for comment on what improvements might be made to the program, there were calls for additional interactive material and the revision of some modules to provide a greater level of interactivity. While the overall content of the program was highly regarded, and was seen as having a good level of variety, facilitators

acknowledged that updating of some aspects needed to be more regular, more consistent (e.g. both videos and workbooks to have the same information) and more face valid (e.g. videos). Dated images in the videos were highlighted as distracting for students and diverting their focus from the main messages. Teachers particularly noted the absence of content on mobile phones (this is included in the *Road Ready* Centre programs) and thought it was critical that it be included in future.

There were too few teacher response to the on-line survey to include these as a separate analysis.

Key findings: Student feedback from interviews and the on-line survey

Interviews. Overall, responses from the young students (15-20 year olds) suggested that they mostly enjoyed the program, thought the content was relevant to them personally and their age group generally, and was well paced. Comments about the process aspects of the program highlighted that young students liked learning in groups, appreciated the teacher/facilitator skill and attention to establishing a learning environment, and liked having variety in the sessions and activities. They found the interactive activities engaging and enjoyable. However, quite a few students said that they thought the program was too long or had repetitive elements in it. Young students identified the videos and material related to Mel's story as the least enjoyable or most challenging aspects of the program. They found these "distressing" and "scary", though some also commented that the thought provoking aspect of this material was effective. Content that focussed on the statistics of crashes, costs of crashes or the costs of running a car were seen as unenjoyable

Mature-aged student comments were more mixed than those from young students. Although most said that they had enjoyed the program and that it should remain compulsory, the content was seen as less relevant to their age group and that shorter programs that catered to mature-aged people should be offered. They too reported that the interactive aspects of the program were the most enjoyable and would have liked to see more of these.

On-line survey. A total of 30 students completed the on-line survey. Overall, the majority of students (90%) liked the program, thought it met their expectations (80%), felt that doing Road Ready challenged their attitude to risk taking on the road (93%), was effective in helping them understand how complex driving is (93.4%), and found it relevant to them and relevant to driving (83.4%). Being able to interact with other students during the Road Ready sessions was supported by most students (83.3%). In terms of improvements, the videos were seen by most students (80%) as being too old. There was mixed opinion with regards to the other program materials. There was also mixed opinion with regards to whether the program should involve parents. Responses to the qualitative items also suggest that students are positively disposed towards the program. Questions that were designed to elicit student understandings of their learning in the program suggest that most are absorbing some of the key messages. In addition, they appear to most enjoy some of the modules that are focussed on critical driving behaviours (those behaviours that are associated with high levels of serious road trauma). This is encouraging.

Contents

Executive Summary.....	2
1 Rationale for the review and overview.....	8
1.1 Structure of the report.....	8
2 Literature review.....	9
2.1 Introduction	9
2.2 Identification of key issues in young driver safety.....	9
2.2.1 Increased crash risk and vulnerability.....	9
2.2.2 Inexperience, age and developmental factors (hazard perception, motivation, executive brain function, distraction)	9
2.2.3 Social, lifestyle and exposure factors.....	10
2.2.4 Intentional risk-taking: alcohol, drugs, risky driving	11
2.2.5 Influence of social networks and peer-passengers.....	11
2.3 Identification of key issues in young driver education and interventions to improve young driver safety	12
2.3.1 Driver training and driver education.....	12
2.3.2 Graduated Driving Licensing (GDL) Systems	14
2.3.3 Effectiveness of GDL systems in reducing young driver crashes	14
2.3.4 Relationship between GDL and driver education	16
2.4 Identification of best practice principles in learner and novice driver education internationally and in Australia	17
2.4.1 Best practice principles in learner and novice driver education.....	17
3 Driver education programs: Australian novice driver programs that have been evaluated	19
3.1 School-based programs	19
3.2 Community-based post-licence programs.....	23
4 Identification and summary of road safety driver incentive programs.....	25
4.1.1 Linking incentives to the successful completion of specific program objectives	25
4.1.2 Expectancy Theory of Motivation	26
4.1.3 The Premack Principle.....	26
4.1.4 Operant Conditioning and Behavioural Reinforcement	27

4.1.5	Current <i>Road Ready Plus</i> Incentives	27
4.1.6	Insurance Discounts as Incentives	28
4.1.7	Token Economies and Prize Draws	28
4.1.8	Influencing Parents	28
4.1.9	Resources, Planning, and Sustainability of Incentives Schemes	29
4.2	Summary	29
5	Review of <i>Road Ready</i> and <i>Road Ready Plus</i> program materials and delivery	30
5.1	Introduction	30
5.2	Summary of the review of the <i>Road Ready</i> program	30
5.3	Recommendations for revision of <i>Road Ready</i> :	31
5.4	Summary of the review of the <i>Road Ready Plus</i> program	32
5.5	Recommendations for revision of <i>Road Ready Plus</i> :	33
5.6	Review of the content and design of the <i>Road Ready</i> program	33
6	Stakeholder feedback: findings from the interviews and surveys with <i>Road Ready</i> facilitators, teachers and students.....	75
6.1	Interviews.....	75
6.1.1	Method.....	75
6.1.2	Findings from teacher and facilitator interviews.....	76
	Strengths of the Road Ready Program.....	77
	Perceptions of which modules work best, are most enjoyable and are easiest to deliver	78
	Aspects of modules or program which students like least or enjoy least, which are in need of revision or which are challenging to deliver.....	79
	Suggestions for improvement to the modules or processes of delivering them	81
6.1.1	Findings from student interviews	82
6.2	On-line survey	86
6.2.1	Method.....	86
6.3	Results.....	86
6.3.1	Student survey	86

1 Rationale for the review and overview

In the year 2000, the ACT moved towards a novel approach to learner driver education in its instigation of the *Road Ready* course. This was a national ‘first’ in that it was a compulsory pre-licensing education program delivered as part of the secondary school curriculum, and in its focus on education rather than skills training. The program was evaluated in 2002 (Ampt & Steer Davies Gleave, 2002) with the participation of 18 schools and National Curriculum Services in Melbourne, and found to be well accepted by those who delivered it (classroom-based teachers) as well as students who participated and their parents.

The current research was commissioned to review the materials used in the program for relevancy and acceptability to the target audiences as part of the implementation of the ACT Road Safety Strategy Action Plan.

This report documents the methods and findings in relation to each of the three project objectives:

1. Identify best practice learner and novice driver education or road safety initiatives in Australia with emphasis on those that have either been evaluated as successful or which show promising evidence of effectiveness
2. Review the existing *Road Ready* and *Road Ready Plus* course materials and provide recommendations for revision
3. Comment on the effectiveness of the current incentives offered for participation in the *Road Ready Plus* program in encouraging participation in the course.

1.1 Structure of the report

The report begins with a review of the literature on young driver crash risk (Section 2) within which best practice principles in driver education are identified and summarised. Section 3 describes Australian driver education programs for which there is existing evaluation evidence and is supplemented by tables in Appendix A which summarise all the available programs the review team was able to access, including those for which no evaluation material has been published. Section 4 addresses incentives with particular reference to the theoretical underpinnings of these and their relevance for the *Road Ready Plus* program. Expert reviewer comments on the *Road Ready* and *Road Ready Plus* program content/materials and delivery processes are detailed in Section 5, along with the overall recommendations in relation to potential program improvements and more specific comments on individual modules. Stakeholder feedback, that is, comments from facilitators and teachers of the programs, as well as former students who have completed the *Road Ready* program, is contained in Section 6.

2 Literature review

2.1 Introduction

This section begins by examining key issues in young driver safety including increased crash risk and vulnerability, inexperience (e.g. hazard perception), age and developmental factors such as motivation and executive brain function, and intentional risk taking factors such as alcohol and drugs. The influence of social networks and peer passengers is also discussed. The following section (2.3) examines key issues in young driver education and interventions to improve young driver safety. This includes a discussion of the difference between driver training and driver education and the research evidence for their effectiveness, the use of graduated driver licensing systems as a countermeasure and the impact of social relationships. The review then goes on in Section 2.4 to identify best practice principles and programs in learner and novice driver education internationally and in Australia..

2.2 Identification of key issues in young driver safety

Evidence from most motorised countries consistently demonstrates the increased crash risk of novice drivers (that is, newly licensed) in comparison to more experienced drivers (Lewis-Evans, 2010; Mayhew, Simpson & Pak, 2003). In Australia, novice drivers are typically aged 17-24 years. This age group comprises only 13% of the driving population yet crash figures show that these drivers are involved in approximately 20-24% of fatal road crashes with many more being seriously injured (AIHW, 2007; RTA, 2007). As a result, novice drivers are an important focus of interventions to reduce the proportion and severity of their crashes. Such interventions include jurisdiction-wide legislation-based approaches such as graduated licensing systems, and public health approaches (e.g. mass education). More localised, specific approaches include driver education and driver training programs. The current section focuses primarily on educational approaches in order to provide a background and rationale for the subsequent sections addressing the review of the *Road Ready* and *Road Ready Plus* pre-licence and novice driver education programs.

A number of factors have been identified as important to young driver crash risk. While a growing body of research evidence is elaborating our understanding of these, resource limitations usually result in any study being able to focus on only a few factors. However, it needs to be borne in mind that multiple factors are likely to be affecting a particular individual young driver whenever he or she gets behind the wheel of a car.

2.2.1 Increased crash risk and vulnerability

Road crashes are the single biggest killer of 15 to 24 year olds in industrial countries (OECD & ECMT, 2006), accounting for approximately 25% of all deaths for 15-24 year olds in developed countries including Australia (BITRE, 2013). Internationally, crash death rates for drivers under 25 years are approximately double those of drivers aged 25 years and over (OECD & ECMT, 2006). This elevated crash risk for younger, less experienced drivers has been consistent and evident for more than 30 years (Elvik, 2010). In Australia, as highlighted previously, drivers aged 17-24 years make up just 12-13% of the population, yet are involved in a disproportionate number of both fatal (21%) (BITRE, 2013, ABS, 2010) and serious injury crashes (25-50%) (AIHW, 2007). Possible reasons for this increased crash risk and vulnerability are that a combination of inexperience, age and development factors, and various intentional risk taking behaviours and lifestyle factors that are typically associated with the adolescent years interact to influence both behaviour and driving circumstances.

2.2.2 Inexperience, age and developmental factors (hazard perception, motivation, executive brain function, distraction)

As identified above, newly licensed drivers are at the highest crash risk of all drivers. In jurisdictions with lower minimum driving ages, crash rates tend to be higher than for those jurisdictions with higher minimum ages (OECD

& ECMT, 2006). Moreover, within the young novice driver group, risk is higher for those at the earlier stage of licensing than later, with crash risk highest immediately after commencing unaccompanied driving, falling rapidly for the first 6 months and then more gradually for 18-24 months post licensing (Lee, Simons-Morton, Klauer, Ouimet & Dingus, 2011; Lewis-Evans, 2010; Mayhew, Simpson, & Pak, 2003; McCartt, Shabanova, & Leaf, 2003; Williams, 2003). While crashes reduce after six months, the risk remains high with young drivers three times more likely to crash than drivers aged 25 years or older (Hasselberg & Laflamme, 2009; Simons-Morton et al., 2011). Risk is also higher for the younger aged young drivers (17-19 yrs) compared to those at the upper age of the band (21-24 yrs) (Hasselberg & Laflamme, 2009; RTA, 2008; Smart & Vassallo, 2005). Young males are also consistently shown to have a higher risk taking propensity, and subsequent crash involvement than their female peers (Twisk & Stacey, 2007).

Driver age appears to influence risk for young drivers because of neurological and physical developmental and maturational processes which are only fully completed at the end of the adolescent years (Gotay et al, 2004; Sternberg, 2008). Thus unsafe driving by novice drivers may result not necessarily from intentional risk taking but rather from being developmentally less mature as well as less experienced, both of which are likely to affect the young drivers decision-making. Lack of developmental maturity may also lead to novice driver overconfidence, while inexperience may hamper optimal decision-making through poor hazard perception (Beanland et al., 2013). Patterns in the types of crashes involving novice drivers during the early licence period suggest that both age and inexperience play a role (Mayhew et al., 2003; McCartt et al., 2003), though more recent evidence suggests that inexperience is more important (Foss, Martell, Goodwin O'Brien, 2011; McCartt, Mayhew, Braitman, Ferguson & Simpson, 2009).

Detection of hazards in the driving environment is a high-level skill generally taking considerable time to fully develop (Whelan, Senserrick, Groger, Triggs & Hosking, 2004) and results from wide experience with varied driving situations and conditions (Catchpole, Macdonald & Cairney, 1997). Young drivers are inexperienced at both driving and detection of hazards and thus more vulnerable to the risks associated with failure to perceive hazards (Whelan et al., 2004) or to fully appreciate the danger involved (Lee, 2007; Senserrick, 2006). Mobile phone use and GPS systems are known to be in-vehicle distractions (Dragutinovic & Twisk, 2005; Haddington & Rauniomaa, 2011; McEvoy et al., 2005; McEvoy, Stevenson, & Woodward, 2007). Research has also found that talking to passengers (McEvoy et al., 2007), grooming, adjustment of entertainment systems and searching for objects inside the car are the main distractions (Neville & Haddington, 2010), and this is known to be the case for young drivers (Klauer, Dingus, Neale, Sudweeks, & Ramsey, 2006). Moreover, young people's greater use and reliance on mobile phones (Lamble, Rajalan & Summala, 2002) even while driving (Poysti, Rajalan & Summala, 2005; Atchley, Atwood & Boulton, 2011) presents a high risk of distraction and is associated with crashing (Consiglio, Driscoll, White & Berg, 2003; Rosenbloom, 2006).

2.2.3 Social, lifestyle and exposure factors

Due to their stage of life, novice driver crash risk is also affected by the characteristics associated with the times they are most likely to be driving and the other exposure conditions. Thus, young people's employment, which might include night time work, as well as their level of involvement in social activities are likely to lead to more driving episodes and greater distances travelled at higher risk driving times (night time, high alcohol times). Moreover, these exposure times may also be associated with impaired driving due to fatigue or alcohol/recreational drug use, exacerbating crash risk. Young drivers may be particularly vulnerable to fatigue due to poor quality or reduced levels of sleep during adolescence as result of developmental processes or study/work/social commitments (Groeger, 2006). This in turn may have an impact on hazard perception (Smith, Horswill, Chambers & Wetton, 2009) or decision-making.

In addition to developing neurologically and physically, young drivers are affected by their social development during this period which might lead to driving with peer-passengers, driving more frequently for pleasure or social purposes or driving under conditions of emotional stress (Harrison, 2004; Lonczak et al., 2007) or for sensation-seeking reasons (Begg & Langley, 2004; Dahlen, Martin, Ragan & Kuhlman, 2005; Jonah, 1997).

2.2.4 Intentional risk-taking: alcohol, drugs, risky driving

Often young drivers overestimate their skill, while underestimating the risks involved and potential hazards on the road (Deery, 1999; Farrand & McKenna, 2001). This is largely due to the inexperience, age and developmental factors described above, i.e. hazard perception, risk perception and other higher order cognitive skills that develop with experience. The social, lifestyle and exposure factors are also important to consider. Many of these characteristics are inherent in the fact that young novice drivers are also adolescents, with this developmental period associated with increased time spend with, and importance placed upon, interactions with peers (Scott-Parker, Watson, King, 2013).

Alcohol and other drug use is a known issue for young people, and a known source of crash risk. While driving under the influence of alcohol or other drugs is detrimental for drivers of all ages, young drivers are particularly more vulnerable to the effects of alcohol, with positive blood alcohol concentrations in those under the age of 21 years shown to increase the relative crash risk of the young driver, compared to older drivers (Peck, Gerbers, Voas & Romano, 2008). A Dutch study that looked at the prevalence of drugs in the driver population concluded that drivers using illegal drugs and combinations of drugs have a 25 times higher risk of serious injury than “sober” drivers (Twisk & Stacey, 2007). As discussed above, due to life style factors associated with adolescence, young novice drivers tend to travel at high risk times, particularly at night and on the weekend, and often with passengers. Drivers aged 16-17 who crashed while under the influence of alcohol in the United States between 2005 and 2009 were more likely to be males who were speeding, not wearing a seatbelt, and carrying passengers on a weekend night. In fact, 88% of the alcohol related crashes took place at night or with passengers present, or both (Williams et al., 2011).

Another highly risky behaviour of concern, again for drivers of all ages, but particularly for young novice drivers is speeding. A high proportion of participants (85.7%) reported at least occasionally exceeding speed limits in a study of Queensland provisional licence holders (Scott-Parker, Watson, King & Hyde, 2013) In their longitudinal study of Western Australian novice drivers, males and drivers who are predisposed to risk taking, have self-rated confidence and ‘adventurousness’ and engage in other health risk behaviours have a significantly higher risk of incurring speeding offences up to 36-months post-licensing (Palamara & Stevenson, 2003). Fatigued driving also elevates crash risk and has been found to contribute to young driver crashes (Hutchins, Senserrick, Jamieson, Romer & Winston, 2008). In a study that examined self-reported risky driving behaviours of young novice drivers, 82.7% of participants reported driving when tired (Scott-Parker, Watson, King & Hyde, 2013). Not wearing seat belts and the attitudes surrounding this behaviour is a further concern for young novice drivers (OECD & ECMT, 2006; Scott-Parker, Watson & King, 2013).

2.2.5 Influence of social networks and peer-passengers

A number of studies have reported that peers as passengers can directly influence a novice driver’s behaviour while on the road (Shope, Raghunathan, & Patil, 2003). Shope and colleagues’ (2003) study linked peer pressure to increased risk (Simons-Morton et al., 2011), and Regan & Mitsopoulos (2001) similarly found a negative peer influence on young male drivers who reported that their friends want them to be risky drivers, to make journeys ‘more enjoyable’. Other studies have found peers can have a positive influence on young drivers’ risk-taking behaviour (Allen & Bradford Brown, 2008). For instance, young female peer passengers have been found to challenge the behaviour of unsafe drivers more often than their male counterparts (Ulleberg, 2004). In a Queensland longitudinal study of young driver behaviour and attitudes, peer influence was reported from the pre-licence through to the provisional learning periods. Young novice drivers who experienced or expected social punishments, such as ‘being told off’ reported less riskiness. On the other hand, young novice drivers who experienced or expected social rewards, such as being ‘cheered on’ by their peers, reported more risky driving including crashes and offences (Scott-Parker, Watson & King, 2013). This effect of peer passengers has been also explored through training and education. In a study that investigated communication skills between young male drivers and their passengers, those who attended a facilitated discussion ‘training’ with the goal to teach drivers and passengers to view each other as part of a driving team, displayed safer driving behaviours in a simulated drive than those in the ‘untrained’ group (Liu, Lenne & Williamson, 2009). Similarly, a Queensland school-based program to reduce general risk-taking amongst youth (“Skills for Preventing Injury in Youth (SPIY),

Chapman, Buckley & Sheehan, 2012) found that students receiving the intervention reported less passenger-related risk taking 6 months after the program and increased intentions to protect friends from underage driving, further showing the protective influence that passengers can have on the young driver.

2.3 Identification of key issues in young driver education and interventions to improve young driver safety

In recognition of their greater crash risk and vulnerability, intervention with young drivers to address these issues has been an important priority in Australia. Three of the main interventions are driver training, driver education and graduated driver licensing. Each has the intention of reducing risk and thereby reducing young driver involvement in crashes. In order to be effective, an intervention needs to target one or more aspects of the identified risk factors highlighted in the previous section. Below, each of these three interventions is described and a summary of the evidence for its effectiveness is given.

While research has demonstrated that graduated driver licensing systems (GDL) reduce crash risk for novice drivers (Shope, 2007; Williams, Tefft & Grabowski, 2012), these licensing systems also interact with driver education and training (Peck, 2011). The licensing system has an important role in determining how novice drivers learn to drive and whether they participate in formal driver education and training programs (Bates, Watson & King, 2006). It is therefore important that reviewing specific education programs takes into account the context of the specific GDL in which the program is situated.

It is also vitally important that road safety education courses consider the delivery mechanisms and teaching techniques that may best result in effective learning, including considering the learning styles, learning motives, and past learning experiences of the target audience (Rowden, Watson & Haworth, 2007). Thus the sections below begin with driver training and education before going on to consider GDL as it is implemented in Australia.

2.3.1 Driver training and driver education

Driver training and education programs are generally targeted at one of the three stages of licensing: pre-learner, learner drivers (Lonerio, 2008; Watson et al., 1996) or post licensure (usually referred to as advanced driver training). The focus here will be on pre-learner and learner programs.

Programs targeting pre-licence drivers aim to encourage the development of safe driving techniques and include content such as information about relevant laws as well as skills-based in-car components. While ‘driver training’ is often used interchangeably with the term ‘driver education’ their meanings differ (Beanland et al., 2013; Langford, 2002; Watson, Fresta, Whan, McDonald, Dray, Bauermann & Churchward, 1996). Driver training generally refers to the acquisition of technical proficiency at managing the vehicle and road conditions, and most recently has included hazard perception and situation awareness as important cognitive skills in the driving context (Beanland et al., 2013). The assumption underlying driver training as an intervention in young driver crash risk is that a driver who is skilled in a technical sense is also a safer driver (Beanland, et al., 2013; Isler et al., 2011). Although this has been intuitively appealing to many members of the community in the past, to date, research evidence has failed to consistently link traditional driver training with reductions in crashes (Groeger & Banks, 2007; Lonerio & Mayhew, 2010; Mayhew, 2007). Thus while driver training programs are widespread, there is continued debate in relation to the usefulness of these programs, with some research indicating that, apart from improving core car use and road law knowledge, these programs offer little in the way of reduction in post-licence crashes or traffic violations (Elvik, 2010; Engstrom et al., 2003; Senserrick, 2007). The introduction of skid training for novice drivers, a type of driver training designed to help manage skids on slippery roads has been found to increase the number of crashes amongst participants, especially in young males (Gregersen, 1996; Williams, 2006; Katila, Keskinen, Hatakka & Laapotti, 2004). Additionally, it has been argued that such programs may also add increased risk for young drivers by encouraging early licensing, particularly for young females (Lund et al., 1986; Isler et al., 2011; Elvik, 2010; Engstrom et al., 2003; Senserrick, 2007).

In contrast to training, driver education is broader and normally centres around gaining knowledge about driving and road safety (Christie, 2001), and may not include any practical driving components at all. It is thus able to be delivered to pre-licence populations as it does not require previous or concurrent driving practice. However, driver education can include driver skills training as a component, while also addressing wider issues, as in school-based driver education programs that incorporate on-road training.

A primary focus of driver education is on the 'will do' aspects or motivational underpinnings of driver behaviour (Rottengatter, 1987). It has also been suggested (Simpson et al., 2002) that a potential alternative to the typical short driver training programs is driver educational programs delivered through secondary schools but with sessions taking place over a longer period of time to allow for the potential to address attitudinal or motivational factors (Simpson et al., 2002), factors which generally take longer to modify. While the effectiveness of this is still debated (Mayhew, 2007b; Twisk & Stacey, 2007), more recent programs in driver education have begun to include elements that focus on higher-order skills training, such as cognitive training, hazard perception training and insight training. These appear to improve the skills that the education program is targeting, and this in turn may be beneficial to crash reduction (Beanland, Goode, Salmon & Lenné, 2013), though, as highlighted earlier, such benefits are not yet well researched enough to be definitive (Beanland, et al., 2013). However, there are promising developments: research that evaluated one Australian insight training program (*AAMI Skilled Drivers* program) identified that the program did not increase confidence in drivers and, in the case of young male drivers, reduced driving confidence (Senserrick, 2001). Given that young drivers' overconfidence in their driving abilities, as identified above, is a contributing factor to crash risk, this outcome is seen as positive. For novice motorcyclists, Rowden (unpublished doctoral thesis) found that safety-orientated attitudes to road safety significantly increased for participants of a classroom-based rider education program when compared to a matched control group that received standard rider training at licensing. Other indices of risk taking such as the propensity for thrill seeking and intentions to engage in future risky riding behaviours were also found to reduce for the program participants over and above the control group, however not to a statistically significant degree.

As identified above, while young driver risk taking is often unintentional and the result of inexperience, deliberate risk taking also contributes to elevated crash involvement. Effective education programs must therefore address both of these sources of risk. This suggests that effective programs should encourage the development of hazard perception and situation awareness as well as raising young driver awareness of the role of motivation in their driving behaviour. Accordingly, Scandinavian and European researchers have suggested that a hierarchical approach to driver education is needed, with cognitive aspects of motivation forming the higher order level that influences lower order levels (such as driving technique) (Peraaho, Keskinen & Hatakka, 2003). Peraaho and colleagues (2003) argue that it is imperative that road safety education programs focus on those characteristics that the driver brings to driving situation, such as attitudes to driving, as these determine the driver's motives and therefore driving choices. Thus a critical component of effective driver education is to encourage young driver awareness of risk-taking behaviours such as impaired driving or speeding and challenge them to examine their own propensity to such behaviours or the factors that might influence them to engage in these. Similarly, impulsive and aggressive driving should be acknowledged and accounted for, as should the negative influence of risk-taking peers (Department of Transport and Main Roads, 2009a). Other research focusing on perceptual and cognitive skills suggests that driver training may be enhanced in the long-term through placing a greater weight on how aspects like motivation and belief systems shape the behaviour of novice drivers (Brown, 1997; Christie & Harrison, 2003; Mayhew, 2007a).

Driving behaviour once licensed is a key concern in reducing the crash risk of novice drivers. Therefore programs delivered prior to licensing must consider the likely change in circumstances and social motives that may shape behaviour in the interim. The limitation here is that some on-road driving experience is likely to be needed before some concepts make sense to learners (Rowden, Watson & Haworth, 2007). Hence, pre-licence programs must carefully consider the scope of what is likely to be personally meaningful to the target audience and how the licensing system can provide appropriate training at various stages as drivers mature and gain initial experience.

While traditionally procedural skills including vehicle manoeuvring were focused on, in more recent times hazard perception has been included (Isler, Starkey, & Sheppard, 2011). Hazard perception testing (HPT), typically via video/computer tests in Australian states, measures a novice driver's ability to anticipate and respond to unsafe driving situations. Research in Australia and internationally continues into the effectiveness of computerised HPTs with promising results (Helman, Grayson, & Parkes, 2010; Scialfa et al., 2011).

2.3.2 Graduated Driving Licensing (GDL) Systems

Graduated Driving Licensing (GDL) Systems are a risk management tool utilising a public health approach to managing crash risk for inexperienced drivers (Simpson, 2003). They are designed to reduce the exposure of young drivers to riskier driving conditions while enabling the accumulation of driving experience under lower risk driving conditions. In this sense, GDL programs can be viewed as traineeships for novice drivers where they gain experience (McCartt, Teoh, Fields, Braitman, & Hellinga, 2010; Simpson, 2003; Waller, 2003; Williams & Shults, 2010) and improve their driving skills (Foss, 2007) over a longer period of time, with supervision in the initial stages and solo driving under less risky driving situations before graduating to a licence that is less restrictive. Although there are a number of factors that contribute to the increased crash risk experienced by young drivers (Bates, Davey, Watson, & King, under review), GDL systems focus on reducing risk for novice drivers as a group rather than reducing the risk of individual drivers (Foss, 2007; Shults, 2010).

Within GDL systems, there are typically three stages: learner, provisional and open (Williams & Mayhew, 2003). In some places, such as Australia, the learner or provisional stage may be split into two phases (e.g. P1 and P2) (Senserrick, 2007). The learner licence enables new drivers to develop their driving skills while being supervised by a more experienced driver (Mayhew, 2003). It appears that both parents and non-parents such as siblings, other relatives and friends, are an important source of supervision for learner drivers (Bates, Watson, & King, under review). The provisional phase allows new drivers to drive by themselves but subject to restrictions (Preusser & Leaf, 2003) such as limits on night time driving or the number of peer passengers that can be in the vehicle with the novice driver (Lin & Fearn, 2003). In Australia, examples of restrictions that apply to the provisional phase include the requirement to display P plates, stricter limits on the amount of alcohol that be consumed prior to driving when compared with more experienced drivers, and a maximum speed restriction (Senserrick, 2007). However, GDL systems vary by jurisdictions and evolve constantly with new elements added and other elements removed.

2.3.3 Effectiveness of GDL systems in reducing young driver crashes

GDL systems have been shown to reduce crashes for young drivers. However, effects across different jurisdictions appear to vary widely, though the differing licensing requirements and research methodologies used in evaluations may account for such variations in reported evaluation results. The introduction of this type of licensing system within the United States of America accounted for a reduction in crash risk for the youngest newly licensed drivers by between 20 per cent and 40 per cent (Shope, 2007). Evaluations of the GDL system introduced in New Zealand identified a 25 per cent reduction in casualty crashes with longer-term studies demonstrating a sustained crash reduction of approximately 7 per cent (Simpson, 2003).

A Cochrane review of 34 studies evaluating 21 GDL programs implemented in Australia, New Zealand, Canada and the US found GDL was found to be effective, in varying degrees, in lowering crash rates among novice drivers (Russell, Vandermeer, & Hartling, 2011). In the mid-2000s US research analysing national road crash fatality data reported that GDL restrictions had not reduced crash rates greatly and more restrictions were called for (Masten & Hagge, 2004). A more recent study in the US found that states with GDL legislation had lower young crash fatalities than those without GDL laws, and so advocated implementation, preservation and updating of GDLs in all US states (Fell et al., 2011).

There are limited published evaluations of GDL systems within Australia. However, recent research has considered the impact of the changes introduced to Queensland's GDL system in mid-2007. These changes were designed to encourage

learner drivers to obtain more driving experience and limit their driving in higher risk situations (Bates, Watson, & King, 2008). The key changes to the GDL system included: increasing the minimum period that a learner licence could be held from 6 months to 12 months; requiring all learner drivers to record a minimum of 100 hours of supervised driving practice within a learner log book; the creation of P1 and P2 licences (instead of the single provisional phase that existed previously); requiring both P1 and P2 drivers to display 'P' plates; introducing a high powered vehicle restriction; and not allowing P1 drivers to carry more than one passenger aged 16 to 23 years during the hours of 11pm to 5am (Newstead & Scully, 2013).

To date, two studies have considered the impact of the changes made to the Queensland GDL system. The first study considered the experiences of learner drivers and compared the experiences of drivers who obtained and completed their learner licence under the former GDL system ($n = 149$) with the experiences of drivers who obtained and completed their learner licence under the new GDL system ($n = 183$). Participants in the sample were from two Queensland cities: Brisbane and Townsville. The former GDL participants completed a telephone interview while the new GDL participants completed an online survey (Scott-Parker, Bates, Watson, King, & Hyde, 2011).

The amended GDL system seems to have achieved many of the planned outcomes. Drivers who obtained and completed their learner period under the new system obtained a significantly greater amount of supervised practice when compared with those under the former system. Learners also appear to spend significantly longer on their Learner permits under the new system than under the old. Despite obtaining a greater amount of supervised practice, those under the new system did not report that it was more difficult to obtain supervised driving practice. This is an important finding as it demonstrates that the changes do not appear to present an additional barrier to obtaining a licence. There may also have been a decline in the self-reported amount of unsupervised driving occurring under the new system when compared with the former system, though in the current analysis, this difference did not reach significance (Scott-Parker et al., 2011). Finally, a significant reduction in the number of offences by young male learner drivers was also found under the new system in comparison to the old. This may result in fewer crashes in the post-learner period. Table 1 outlines the key findings from this pre and post comparison study.

Newstead and Scully (2013) reported on the preliminary results of a comprehensive evaluation of the impact of the changes to Queensland's GDL system on police-reported crashes. Their research identified that the changes to the GDL system in Queensland were associated with a 31 per cent reduction in fatal crashes, a 13 per cent reduction in fatal and serious injury crashes and a 4 per cent reduction in all crashes. However, a limitation of this study was the restricted amount of crash data available for the period after the changes were implemented in Queensland (Newstead & Scully, 2013).

Table 1: Summary of the former-GDL and current-GDL program measures, including comparative analyses, for novice drivers aged 17–19 years in a metropolitan and a regional area in Queensland

Key measure	Former-GDL N = 149	Current-GDL N = 183	Significance level
<i>Sociodemographic characteristics</i>			
Age (M (SD) years) ^a	17.54 (.72)	17.52 (.72)	p = .88
Gender (female) ^b	51.7%	60.7%	p = .10
<i>Experiences as a learner driver</i>			
Learner duration (M (SD) months) ^a	12.44 (6.76)	16.52 (5.83)	p < .001
Unsupervised driving (novices) ^b	16.9%	10.1%	p = .07
Males	25.0%	14.7%	p = .13
Females	9.2%	9.2%	p = .62
Driving practice (M (SD) h) ^{a,c}	63.28 (48.00)	108.77 (12.67)	p < .001
Parents/friends supervisor (M (SD) h) ^a	52.83 (45.80)	83.30 (25.58)	p < .001
Mother main supervisor	42.6%	50.5%	-
Males	45.8%	36.5%	-
Females	39.5%	58.9%	-
Instructor main supervisor	30.4%	5.1	-
Instructor supervisor (M (SD) h) ^a	11.46 (15.81)	9.80 (8.70)	p = .24
Difficulty practising (difficult) ^a	35.3%	23.2%	p = .14
Males	19.8%	14.7%	p = .82
Females	50.0%	28.0%	p < .05
<i>Gaining a provisional licence</i>			
Gained Provisional (1 st attempt) ^b	61.5%	68.2%	p = .21
Number of attempts (M (SD)) ^a	1.47 (.68)	1.34 (.68)	p = .09
<i>Learner driver behaviour: crashes and offences</i>			
Crashes ^b	6.2%	1.9%	p = .06
Males	5.7%	5.2%	p = .89
Females	6.6%	0.0%	p < .05
Offences ^b	4.7%	0.6%	p < .05
Males	8.3%	0.0%	p < .05
Females	1.3%	1.0%	p = .87

^a Analyses utilised t-tests

^b Analyses utilised Chi-square tests

^c Please note the calculation of the mean and standard deviation of the current-GDL hours of driving practice excluded three novices not required to submit a logbook containing a minimum 100h of certified practice. Novices can apply to be exempt from completing a logbook, for example if they can demonstrate that they would be unable to document adequate driving practice within the three year maximum Learner period. If the exemption is granted they are required to hold their Learners for a two year minimum duration.

Source: Adapted from Scott-Parker et al., 2011

2.3.4 Relationship between GDL and driver education

Bates and colleagues suggest that the structure and requirements in GDL systems have an important role in determining how novice drivers learn to drive and on whether they take part in formal driver education and training programs (Bates, Watson, & King, 2006, 2010). For instance, many GDL systems require learner drivers to undertake a certain minimum number of hours of supervised practice. This encourages learner drivers to practice their driving with private supervisors. The inclusion of concessions within a GDL system can also influence the uptake of formal driver education: in North America 37 of 62 jurisdictions offer adolescents who attend such an education program the ability to obtain their licences between three months and two years earlier than those who do not (Mayhew, Simpson, & Singhal, 2005). However, it appears that the link between formal driver education and the licensing system is not as well designed as it could be. For instance, most driver education and training is focused at the learner period within GDL systems rather than being provided in a more phased approach that is a key feature of GDL systems (Mayhew & Simpson, 2002).

In Queensland and NSW it appears that very few people attend a non-compulsory formal driver education course within the respective GDL systems. Telephone interviews conducted with drivers who had just obtained a provisional licence in these two states (prior to the mid-2007 licensing changes), identified that only 6.9% of participants from Queensland and 19.1% from New South Wales reported completing a formal driver education and training course (not including professional driving lessons) while on a learner licence (Bates, Watson, & King, 2009).

Similarly to North America, in some Australian jurisdictions, driver education can be used as a substitute for supervised practice. Where this occurs, it appears to reduce the overall hours of practice undertaken by the novice driver. A possible reason for the reduction in hours is that parents may deliberately encourage their children to undertake driver education instead of providing supervised practice. Alternatively, parents may overestimate their child's ability to drive when the novice has completed a driver education program and thus not provide the same level of supervised practice (Mayhew, 2007). It may also be because in some jurisdictions, novice drivers are able to obtain their licences earlier if they complete a professional driver education course. However, it is not considered best practice to enable a novice driver to obtain their licence earlier as a result of attending a formal driver education and training course due to the associated increase in crash risk (Hirsch, Maag, & Laberge-Nadeau, 2006; Lewis-Evans, 2010).

While GDL systems reduce crash risk for new drivers (Masten & Foss, 2010; Newstead & Scully, 2013; Neyens, Donmez, & Boyle, 2008; Pressley, Benedicto, Trieu, Kendig, & Barlow, 2009; Shope, 2007; Williams & Shults, 2010), there is a limited understanding of how they do this or which of the elements are the most effective, though there is evidence to support the benefits of extended learning periods, night time restrictions and passenger restrictions in reducing crash risks (Williams, 2007).

2.4 Identification of best practice principles in learner and novice driver education internationally and in Australia

This section discusses and summarises best practice principles for novice driver education internationally and in Australia.

2.4.1 Best practice principles in learner and novice driver education

Recognition of the distinction between driver training and driver education and the importance of driver motivation to behaviour on road has led to an interest in identifying, understanding and specifying the elements of education that might be most effective. Consistent with these interests, the *GADGET matrix* (Guarding Automobile Drivers through Guidance Education and Technology) was developed in the 1990s and 2000s through a European Union (EU) supported project which summarised the basic mechanisms that should be attended to in effective driver education programs (Hatakka et al., 2002). *GADGET* describes a hierarchical model of novice driver education with four graded stages for the learner/novice to attain: (1) goals for life/skills for living, (2) driving context and goals (strategic), (3) mastery of traffic situations (tactical) and (4) vehicle manoeuvring (operational). At every stage there are three types of curriculum should be addressed: (1) knowledge, (2) risk, and (3) awareness. Combining these stages with curriculum areas results in a matrix with twelve cells applicable to optimal novice driver training (Peraaho et al., 2003). This model is discussed and described in more detail in Appendix B.

Another European project, the *EU TRAINER*, mapped driver training and education onto the *GADGET* matrix to better understand at what stage in the programs driving aspects such as driver decisions and motivations were addressed (Hoeschen et al., 2001). This allowed for the identification that the existing training programs included in the mapping relied mostly on developing skill and knowledge aspects such as vehicle manoeuvring and control over traffic situations rather than addressing the higher-order levels specified by *GADGET*. Subsequent recommendations were that programs should address novice understanding around safety issues, as well as address

driver motivations and mental attitudes that may have an impact on the driver's behaviour. Recommended also suggested that programs include attention to novice driver objectives for driving, as these may compromise the safety of the journey. In addition, programs should cover driver knowledge about relationships between lifestyle and driving, risk awareness regarding social pressure, alcohol and drugs, sensation seeking, and awareness about personal risk factors. It was also suggested that in relation to actual skills learners should receive feedback about these and compare this with self-assessment (Hoeschen et al., 2001).

Australian reviews of driver education literature (Senserrick & Haworth, 2005; Department of Transport and Main Roads, 2009b) have also made recommendations as to the key areas that should be addressed and the methods used to achieve best practice. Consistent with the recommendations from the European literature cited above, Australian authors note that programs should address novice driver understanding of the impact of emotions and attitudes on their driving choices as well as raising awareness of the risks associated with driving. In addition, recommendations state that material included in programs should be consistent with existing GDL frameworks and should be designed around school curricula. In terms of delivery, engaging young drivers in exploring their own beliefs is regarded as vital and there is encouragement to make extensive use of peer discussion groups. Importantly, there has also been recommendations that programs should be evaluated and that evaluations should be based on observed behaviour change and crash-based data, that is, outcomes, rather than being comprised of process evaluation alone (Department of Transport and Main Roads, 2009b).

As novice drivers in Australia are generally aged 16-18 years, programs are most likely to be effective if they recognise the learning needs of this group while also taking into account developmental stage. Pre-licensed drivers are younger still, being 15 or 16 years old. These later-adolescent years in human development are associated with rapid cognitive, social and often physical development and thus individual differences may be considerable. Learning needs are likely to be different within the age band too, as those at the earlier end of the band, 15 and 16 year olds, may require more structured learning experiences than 17 or 18 year olds, who may respond better to andragogical (adult learning) approaches. A pedagogical focus, with structured knowledge and learning experiences may thus be suited to 15 and 16 year old pre-licence, less experienced learners (see Choy & Delahaye, 2007 for a review) and inexperienced drivers, while an andragogical or learner-centred approach, may be better suited to 17 and 18 year old learners. Andragogical, self-directed learning approaches encourage student co-construction of the learning experience so that the potential for gaining personal meaning from training is maximised (Rowden, 2012). Thus best practice in driver education should recognise the specific learning context for the learner and utilise an appropriate approach.

The next section summarises those Australian driver education programs for which there is published evaluation material.

3 Driver education programs: Australian novice driver programs that have been evaluated

Below, Australian programs in young driver education for which there is some evaluation evidence are described. The selection of the sources included in the review focused mainly on evaluations published from the 1990s and 2000s. Peer-reviewed journals, books, government and consultant reports, conference proceedings, grey literature and driver and road safety websites were searched in order to identify material/programs for inclusion.

The following driver education programs are currently available in Australian states and Territories. Some are school-based and targeted at certain age or year groups and others are national or state based programs delivered through other avenues. This section focuses on those programs that have been evaluated in some way, while Appendix A gives a more complete list of current programs and initiatives, including those that have not been evaluated.

3.1 School-based programs

Reduce Risk Increase Student Knowledge (RRISK) is a resilience building program that provides Year 11 students, aged 15 to 16, in northern New South Wales with the opportunities to develop cognitive and social skills to help them make better choices when faced with risky situations. It now involves 58 schools and 350 peer facilitators across northern NSW from Tweed Heads to Port Macquarie.

Zask and colleagues conducted an evaluation of the program whereby pre and post surveys were administered in 21 intervention and 19 comparison schools in the northern NSW area during March 2003 and 2004. There were 2705 baseline and 1996 follow up respondents. Results of the written survey showed that those who had participated in the RRISK program demonstrated some significant improvements in knowledge, attitude and behaviour compared to those in the comparison group (Zask, van Beurden, Brooks & Dight, 2006).

A more recent study of the same program delivered to 3664 students, used mixed methods for a process evaluation. Emphasising the resilience-based component of the program, survey data was collected from 226 student facilitators and 87 teachers. Survey items covered several domains: program reach, licence status of peer facilitators, the number of times the teachers had attended the RRISK seminar, satisfaction with the program, peer facilitators' self-assessment of their role and the impact of the seminar. An additional component was included specifically to evaluate the DRIVE theatre session. Teachers rated the organisation of the seminars positively with most ratings either 'excellent' or 'good'. Similar ratings were given by both teachers and peer facilitators regarding each of the program presentations. Logistical challenges were identified in some activities but overall ratings were positive. When examining qualitative responses to the questions about what students learnt, most responses fell into the theme of 'alcohol and safe partying' with categories such as sobering up myths (i.e. consumption of bread and water), drugs, looking after drunk friends, and car safety. Teachers were asked to indicate their agreement/disagreement with the statement "I believe students will be able to apply the knowledge and skills acquired today to reduce harmful outcomes". All of the teachers, who responded, did so positively. The DRIVE theatre session was rated as either 'excellent' or 'good' by 88% of teachers and 87% of peer facilitators. Students were asked about what they remembered about the session with most responding 'drive safely/sensibly/not too closely/don't speed' and 'distraction'. Not letting passengers distract you as a driver, turning down/off music, avoiding distractions and not using the phone were the most frequently reported strategies identified from participating in DRIVE. Overall, the authors concluded that multi-media presentations including physical theatre, and a novel teaching strategy, were effective in educating young people about road safety (Dight & Hughes, 2013).

The *Road Ready* program is a secondary school-based program for Year 10 students in the ACT. Completion of *Road Ready* is a requirement for obtaining a Learner's Licence in the Australian Capital Territory (ACT). *Road Ready* was a national first to be delivered as part of secondary school curriculum. Developed in 2000, its objective was for young people to become aware of safe road use and the program focused on driver education rather than practical driving-skills

training. Sessions focus on problem solving, decision-making, raising awareness of the young driver crash involvement statistics, group discussions and dilemmas of driving. Training is provided to teachers delivering the program to make sure they are familiar with the course philosophy, content and resources (Ampt & Steer Gleave, 2002). Programs are also provided through non-school based centres so that all pre-licence drivers can complete this prior to seeking a Learner licence. No outcome evaluations of this program have yet been undertaken, primarily due to the implementation of other important countermeasures at the same time as the original program (e.g. speed cameras) (OECD & ECMT, 2006). However, a process evaluation was carried out in 2002 (National Curriculum Services & Davies Gleave, 2001/2) and this found that the program was well-accepted by classroom-based teachers and students in 18 schools, along with their parents.

RYDA is the Rotary Youth Driver Awareness program, delivered nationally to high school students in Australia and New Zealand. *RYDA* is run by Road Safety Education Limited (RSE), a not for profit organisation that provides road safety education to young people before they commence driving. It is conducted at an out of school venue, chosen to highlight the road safety messages and is targeted at 16-18 year olds. One survey-based evaluation of the *RYDA* program was conducted with Year 11 students and teachers from 20 state, religious and independent schools in New South Wales, with both single-sex and co-education being surveyed (Elkington, 2005). Student surveys were collected at three time points with a response rate based on 1200 surveys. Thirty-two teachers took part in the survey, and eight key informants completed telephone interviews.

Findings across the three survey occasions illustrated a consistent pattern about the successful impact of the program. Similar to other singular road safety education programs most gains were diminished at the three-month mark following completion of the program. Areas of immediate gains and total loss of gains at three-months included identifying the consequences of taking risks, knowing how long alcohol stays in the body, over-confidence in driving ability and understanding that fatigue can happen on short journeys. Areas where immediate gains were somewhat lost at three-months follow-up included knowing that driving is a complex task and understanding that loud music and having the window down will not help driving when fatigued. Few gains were retained over the three-months, although females retained a little more than their male counterparts over that time. Gains included reports of being uncomfortable as a passenger while a driver used a mobile phone, and the distraction of loud music making conversation difficult.

A few results that were of concern were the percentages of students who reported having travelled in a car with a drink driver (20% pre-program for females, 18% at follow up and 22% for males pre-program, 24% at follow up) or drug-driver (8% pre-program for females, 9% at follow up and 12% for males pre-program, 14% at follow up), reports of not wearing a seatbelt on more than one occasion (20% pre-program for females and 22% at follow up and 23% for males pre-program, 22% at follow up), and waiting until they get to a party before being sure about how they would get home (41% of males reported 'Never' pre-program and 42% at follow up and 46% of females reported 'Never' pre-program and 50% at follow up). Most of the teacher responses were supportive of the program's content and found the one-day format suitable, although some reported that the program groups were too large.

Recommendations and conclusions from the evaluation included that periodic booster sessions should be considered, and that these should have a greater emphasis on encouraging safer transport after partying as well as raising awareness of the impact of driver distractions such as loud music, mobile phones and passengers. It was also recommended that material should address other factors such as passenger safety, speeding and the complexity of the driving task as well as acknowledging limited driving experience (Elkington, 2005).

Both the *RRISK* and *RYDA* programs featured in an evaluation based on a cohort of 20822 young people aged 17-24 in NSW who were part of the *DRIVE* longitudinal study of young drivers. The evaluation compared first year drivers who had taken part in one of these two education programs between June 2003 and December 2004.

Participants completed a detailed online questionnaire and consented to data linkage (Senserrick et al., 2009). The questionnaire contained several questions about demographics, ethnicity, driving experience and training, risk perception, driver behaviour (questions adapted from those used in similar studies), lifestyle habits including alcohol (using a subscale of the Alcohol Use Disorders Identification Test) and other drug use (adapted from the Centres for Disease Control and Prevention's Youth Risk Behaviour Surveillance System) sensation seeking (Impulsive Sensation Seeking Scale) mental health (Kessler-10 Psychological Distress Scale and a question from the Beck Suicide Intent Scale) and sleeping habits (Ivers et al., 2006). Survey responses were then linked to police reported crash and offence data for the period 1996-2005, representing an average 2 year follow-up from the DRIVE survey, for the majority of participants. *RYDA*, as outlined above, is a single day workshop-only program with a focus on driving risks and safe driving. *RRISK* is a resilience-focused program, also a single day workshop format, but including longer term follow up activities and a broader focus on reducing risk taking and building resilience. Findings suggested that while the driver-focused program made little difference to police-reported crash and offence rates, the resilience-focused program was effective with a 44% reduced risk of car crashes (Senserrick et al., 2009). The evaluators called for a randomised control trial evaluation to be conducted urgently in order to ensure a rigorous evidence-base and provide a basis for future larger scale roll-out of such a program.

A curriculum-based program that has been running in NSW for nearly 30 years is the *School Road Safety Education Program*. As a Centre for Road Safety (CRS) strategy, the program covers mandatory content of road safety education within the NSW Personal Development, Health and Physical Education Primary K-6 and secondary 7-10 Syllabuses. The program is designed to instil safe attitudes and behaviours from an early age and is strongly supported by parents and the wider NSW community (Meehan, 2011). A more educational resource that the CRS has developed: *Limiting risks – protecting lives. Choices for novice drivers and their passengers*, targets students in Years 10-11 and was developed to support student welfare/pastoral care programs in NSW secondary schools. The resource provides activities to examine students' attitudes to road use and aims to promote self-reflection and making better decisions as drivers and passengers.

There are 7 modules in the resource, each with a key theme and various activities to support the delivery of 18 key road safety messages for the targeted age group. The first module is an introductory one and focusses on speeding as a key risk factor. The other 6 modules cover issues such as getting a licence, thinking and acting safely, peer pressure, inexperience with the road environment and causes of common crashes, poor judgement including the effects of drugs and alcohol on driving and thinking about responsibilities and privileges. The resource was distributed to all NSW secondary schools and teachers were provided with a one day professional learning workshop to understand the resource and its support materials, to increase their own awareness of current road safety issues, to learn about opportunities to access further support for road safety education at their schools as well as implementation strategies for the Year 10-11 curriculum (Meehan, 2011).

In 2010, 100 teachers completed an independent online survey about their use of the resource. Almost all (93%) of those who responded indicated that they had or were using the resource (with the other 7% either still to implement the resource or the school was yet to decide upon its uptake). Almost all (93.5%) indicated that they thought the resource was suitable for Year 10 or 11 students. Feedback about the resource was very positive with most teachers reporting that each of the 7 modules was either very useful or useful. They commented that the resource was excellent, practical and had a great range of hands on activities that not only addressed young drivers but also passengers. They indicated that students found the activities very interesting and regarded them highly. The teachers felt that the activities encouraged students to think at a deeper level about road safety and to make better decisions. They also commended the teaching and learning activities as being user friendly, of high quality and linked to the latest research (Meehan, 2011).

Under the umbrella of the Western Australian *Road Aware* education program sits the *Keys4life* program aimed at Western Australian school and out-of-school children along with their parents. At pre-driver and learner driver level,

Keys 4life targets students in Years 10 to 12. The aim of the program is for young people to understand road safety and comply with road rules, and to undertake safe driving as part of gaining a driver's licence. Vital components of the program include being delivered well by people known to students and also parent involvement (Office of Road Safety, 2009). A multi-component evaluation of the program was conducted in 2010. Teachers and Principals of participating schools as well as students and parents who had attended or participated in the program (or the 1 hour parent workshop) took part. An online survey was completed by teachers and Principals and a paper-based survey was completed by students and parents. In addition, school site visits, stakeholder consultations and analysis of program data were also undertaken. The authors concluded that *Keys4life* was effective in delivering road safety education in the school context and developing positive road user attitudes and behaviours among students. The structure and content as well as the methods and processes of delivery were found to be consistent with best practice road safety education principles. Several content areas were identified as missing from program materials (for example drug driving and roadside random drug testing, discussion of the Australasian New Car Assessment Program and Used Car Safety Ratings, and parent-teen driving contracts). The reach of the program was also examined with 22% of the total number of 16 years old students that obtained their learner licence in 2008 having participated in the program. Barriers to program delivery were identified as time limitations, competing programs and resource limitations. Impact of the program was assessed in terms of the proportion of students who obtained their learner permit after having participated in the program. For participating students in 2003-2008, this represented a pass rate of 81%. While it was difficult to determine, the authors believed that participation in the program had generally had a positive impact on students' attitudes towards safer driving and the importance of gaining experience on the road through supervised practice (Govan, Haworth & Hood, 2010). *Keys4life Online* is a national web-based resource for pre-learner and learner drivers based on the same material as that in the school based program. It includes an interactive DVD, a facilitator guide and a learner journal and aims to assist individuals to gain a driver's licence and understand safe driving as a fundamental component in gaining and sustaining employment (<http://www.keys4lifeonline.com.au/>).

The *P.A.R.T.Y* (Prevent Alcohol and Risk-related Trauma in Youth) program is aimed at learner and P plate drivers aged 15 to 18 years. Based in hospital trauma rooms and rehabilitation units, the program involves school students spending time with emergency centre staff to gain awareness of the impact of trauma on young people. Originally developed in Toronto, Ontario, Canada, the *P.A.R.T.Y* program has been established at trauma hospitals at over 100 sites around the world including Australia. *P.A.R.T.Y* programs have been adapted to Australian hospitals in Queensland (Royal Brisbane), Victoria (The Alfred and Royal Melbourne) and Western Australia (Royal Perth). Evaluation of the program consists of a pre-program questionnaire at the start of the day which asks students to describe their interpretation of a risk taking activity and their decision making in hypothetical situations. A post-program questionnaire is then administered upon completion of the program to establish whether students had changed their views or attitudes and their views in relation to the impact of the experience on their future behaviour. Based on responses from the 1200 students who had participated up to August 2007, 50% reported that the program would be 'very likely' to make a difference in future behaviour (and a further 41% reported that it would be 'likely'). When asked if they would drive home after consuming alcohol rather than arranging something else, 68% reported that they would definitely not drive home after completing the program, compared to 50% responding this way pre-program (Royal Perth Hospital, 2007). A follow up questionnaire is then administered 3-5 months post-program to identify any sustained behavioural changes. However no results from this were reported in this evaluation.

The *Skills for Preventing Injury in Youth (SPIY)* Program is another school based program aimed at reducing injuries and risk-taking among adolescents aged 13-14 years and increasing personal and peer protective behaviour. The program is taught in weekly 50 minute lessons over 8 weeks and targets a range of risky behaviours, including dangerous driving, which are known to increase during the adolescent period of development. SPIY was evaluated in 10 schools in South East Queensland and the Australian Capital Territory. Five schools were randomly assigned as intervention schools and the other five assigned as control schools (and these were offered the program but with

an implementation date after data collection). Survey and focus group data have been collected from 843 students who were below licensing age. Results showed that the proportion of intervention students who reported that they had ridden with a dangerous driver decreased by 4% from baseline to follow up while for the control students there was a 6.6% increase in self-reports of this behaviour. The same pattern of results was found for riding with drink drivers. There was a positive change in intervention students' intention to protect their friends from driving without a licence but no significant change in intention to protect friends from drink driving. There was also no change in reports of passenger related injuries. Qualitative findings from the focus groups indicated that following the *SPIY* program, participants were more likely to think about possible consequences before participating in risky behaviours (Chapman, Buckley & Sheehan, 2012). A randomised cluster control trial commenced in Queensland in 2012 and data from this trial is currently being analysed. Thirty-five schools across South East Queensland and the Queensland central coast took part in this trial (2521 students in total), the results of which are expected to be available in the next 12-24 months.

3.2 Community-based post-licence programs

Keys2Drive is a learner-based national program funded by the Australian Federal Government and delivered by the Australian Automobile Association. The program aims to deliver a richer driver experience to learners and to improve safety during the first half year of provisional licensing. The program comprises a free driving lesson to learner drivers accompanied by their main supervisor and an interactive website (Senserrick & Mitchell, 2013). Using retrospective analysis, an evaluation was conducted using two separate cross-sectional samples of learner drivers and supervisors who had participated in *Keys2Drive*. The first set of data was feedback surveys completed at the time of the free driving lesson for all participants in all states and territories (9011 learner drivers and 1245 supervisors). The second was an anonymous on-line survey open from Dec 2012- Jan 2013 for all NSW and QLD participants who were estimated to be post their first 6 months of the provisional licence (3301 former learners and 1245 former supervisors).

Results from the feedback survey were positive across all aspects to do with registration, accessing lessons in a reasonable time, and satisfaction with the instructors. Significant improvements were also seen for both learners and supervisors in terms of understanding central *Keys2Drive* concepts, including increased knowledge about risks, and understanding of the learning experience. Results from the online survey were also encouraging when comparing former *Keys2Drive* learner driver responses to other samples of young learner and provisional drivers. Relative to the other samples, more *Keys2Drive* participants reported that they had held their learner licence for longer than the mandatory 6-12 months, had spread out their driving practice over a longer period rather than cramming it in at the end of the learner period, had completed a higher number of supervised hours, reported fewer driving offences or crashes as a learner, were less likely to report having broken the road rules in the first 6 months of the provisional period and had fewer recorded offences or crashes in the first 6 months of the provisional period.

Limitations to the evaluation included *Keys2Drive* participants perhaps being more safety-focused than peers not in the program. Further, the no-cost factor of the program meant that those completing it might have differed from the general population of learner drivers (Senserrick & Mitchell, 2013). The authors called for further evaluations using comparative measures.

AAMI skilled drivers' course is a national program (excluding Northern Territory) offered at no cost to AAMI insurance customers, and is aimed at under-25 year old holders of probationary or open licences. The one day program comprises both theoretical and practical components and is an example of what is termed insight training that focuses on attitudinal-motivational skills rather than physical skills. The aim is to raise drivers' awareness of factors that contribute to crashes and potential risks when driving. The course begins with a group discussion to explore the common issues that young drivers face on the road. Information about the most common types of crashes, how they occur and how to avoid them is also presented. The practical component involves drivers experiencing how speed affects the ability to control a car, sudden changes in traffic conditions, sudden stops and

appropriate following distances. MUARC evaluated the course in 2001 using a survey to assess attitudes, behaviours and perceptions of enforcement and crash risk. The survey was administered to 149 participants at three points of time (upon enrolling in the course, again just before or just after participation in the course and finally 8-9 weeks following completion of the course (Senserrick & Swinburne, 2001).

Results suggested that even though participants reported a view that they had become better drivers than others, and reported increased confidence in managing possible hazards when driving, overall overconfidence had not increased (Senserrick & Swinburne, 2001). Recommendations about improving the program included using an array of teaching mediums, heightening of emotions, and the opportunity to enhance personal relevance and social influences. The authors concluded that insight training, as provided by this AAMI training program, provides a promising road safety countermeasure, likely to result in reduced crash involvement for young drivers.

The “*P Drivers Project*” is currently underway in Victoria and New South Wales to develop and implement a novel behaviour change program for young P plate drivers aged between 17 to 22 years. The project is represented by VicRoads, Transport Accident Commission, Department of Infrastructure and Transport, Transport for NSW, Federal Chamber of Automotive Industries, Royal Automobile Club Victoria and NRMA Insurance. The program itself aims to: reduce the number and severity of road crashes involving young novice drivers, improve safe driving behaviour of young novice drivers and increase awareness of the risk factors that contribute to high crash rates for young drivers. The behaviour change program uses an adult education approach intended to change on-road behaviour of young novice drivers in such a way as to reduce their crash risk. The project’s primary aim is to assess the effectiveness of the program on both the police-reported and self-reported involvement of young novice drivers. Additional project aims are: to identify self-reported safety and unsafe driving behaviour, to improve young drivers’ awareness of factors that influence their risk of crash involvement, to identify offences and compliance with licence conditions and restrictions, to increase awareness in the general community of the need to improve safe driving behaviour of young novice drivers, to determine the willingness of young novice drivers to participate in this type of research and to provide a significant addition of research evidence and knowledge on young novice drivers. The project has recently completed data collection (in September 2013); with 28000 P licence drivers aged 17-21 split across both states. This comprised an online driver survey, focus group discussions and some on-road sessions (<http://pdriersproject.com.au/>).

4 Identification and summary of road safety driver incentive programs

This section relates specifically to incentives and how they may be best offered to increase the uptake of the *Road Ready Plus* program for young drivers during the Provisional (P1) stage of licensing. Further comment is provided about how incentives may also be used to encourage desirable driving behaviour following training and, hence, transfer information learnt during the program to the practical driving situation.

Incentives are used in many life domains to motivate individual behaviour: for example, to purchase a product, to take up a service, to increase performance or productivity, and to take part in health interventions (Scott & Schurer, 2008) or safety programs such as *Road Ready Plus* (see <http://www.qualityincentivecompany.com/incentive-solutions/safety-incentive-programs/> for further examples). The incentive may be offered in many different forms: for example, monetary bonuses, accrual of frequent flyer points (or similar), prize draws, vouchers, or product or service discounts. However, there is a pragmatic difference between incentives and rewards. Whereas rewards are usually provided after the performance of a desired behaviour as positive reinforcement, incentives are promoted 'up front' to motivate the performance of the desired behaviour such as undertaking training (but are often linked to the later provision of rewards, contingent upon satisfactory performance of the desired behaviour). Therefore, while the terms incentives and rewards are sometimes used interchangeably, the subtle difference relates mainly to motivation: in this case to motivate participation by eligible drivers in the *Road Ready Plus* educational program.

4.1.1 Linking incentives to the successful completion of specific program objectives

While linking incentives to the successful completion of program objectives for participants may not necessarily increase uptake rates for the *Road Ready Plus* program, it is expected that there would be a possible benefit in this approach. Firstly, this may assist in *engaging* students in the program content in order to meet the objectives or assessment and obtain the contingent reward. Secondly, if safe driving in the weeks following completion of the program was an explicit objective, then a 'points' incentive for compliant behaviour may create a sense of competition among participants to attain the most points or highest 'stats' or social status within the peer group. That is, to motivate program participants to embrace the information provided and to put lessons learnt from the program into practice on the road following the program. This method may possibly enhance safety effects of the program if safe driving behaviour following program completion can be objectively stated and monitored (e.g. by telematics or mobile phone 'apps'). Telematics are devices installed in a vehicle that can capture data relating to vehicle acceleration and speed, G-forces during cornering, and other behavioural indices such as following distance. Telematics devices and similar mobile phone apps generally can offer immediate auditory feedback to the user in relation to aberrant driving behaviour (beyond pre-defined parameters) and/or provide summary feedback after a given period of time.

Guidelines for best practice for incentives schemes linked to driving behaviours were identified by Rowden, Lewis, Watson, Fleiter, Schramm and Gauld (2013) as follows:

- The incentive must be salient;
- The incentive must be awarded in close proximity to the desired behaviour and in an intermittent way;
- The incentive must be linked to behaviours that the target group are capable of performing and delivered in a relevant setting;
- The scheme must address possible manipulation regarding the under-reporting of crashes;
- The incentive should be effective at changing, or encouraging the adoption of new behaviours, rather than maintaining behaviour;

- The scheme should have simple and clear rules regarding the behaviour and standards required to be awarded the incentive;
- The incentive should be attractive to the target group (i.e. of high valence);
- The scheme should include fast and clear feedback regarding the desired behaviour;
- Short duration incentives schemes should be repeated at regular intervals for longer term effects (booster dose); and
- The desirable behaviour to which the incentive is linked should be monitored systematically.

In addition, incentives are most likely to be offered if they are affordable and sustainable from the perspective of the organisation funding them. Understanding the mechanisms by which incentives may motivate individuals' behaviours is important. Therefore, the following sub-sections describe theoretical concepts that may inform the development of effective incentives strategies.

4.1.2 Expectancy Theory of Motivation

Much human behaviour is goal directed and, as such, is linked to some form of motivation. Motivation may be intrinsic (e.g. to fulfil some internal sense of satisfaction or receive praise) or extrinsic (e.g. to receive external incentives such as money).

The Expectancy Theory of Motivation (Vroom, 1964) is most often applied in management settings and is a key motivational theory in Organisational Psychology. However, it could equally be applied to any setting when considering incentives to motivate behaviour.

The theory has three key components: expectancy, instrumentality, and valence. The basic rationale of Expectancy Theory is that a reward can be promoted as an incentive to motivate people to perform a desired behaviour if:

1. the reward is perceived by the person as being of sufficient value (i.e. is personally meaningful in nature and magnitude);
2. the effort required to obtain the reward is perceived as worthwhile; and
3. the effort is perceived as being likely to result in a sufficient level of performance required to achieve the reward.

Therefore, as each individual may find certain incentives attractive and not others, it may be most effective across populations to offer a range of incentives (or prizes) for each individual to choose from. This is applied in incentives schemes such as frequent flyer programs where reward points are on offer to motivate behaviour. In addition to these extrinsic motivators, programs may appeal to more individuals in a voluntary context if intrinsic motivators are also included in promotional materials (such as social status among peers).

4.1.3 The Premack Principle

The Premack Principle (Premack, 1965) is based on Operant Conditioning Theory and describes the process whereby a behaviour that is less desirable to an individual may be reinforced by using a behaviour that is more valued by the individual as an incentive or trade off. That is, allowing the more desirable behaviour is contingent upon the individual performing a less desired behaviour in the hierarchy of individual motives. For example, a child only receives ice cream if (and only if) they first eat their broccoli. This Premack Principle posits that if the attractiveness of the incentive (ice cream) is more highly ranked than the unattractiveness of the broccoli on the hierarchy of motivators, then the child will eat the broccoli in order to receive the incentive.

A similar approach is sometimes used in road safety whereby if an educational course is completed a reduction of required log book hours during the learner period is granted or a reduction of the minimum duration for which a

Provisional licensing is held is granted. In effect, this type of incentive is a trade-off that allows earlier graduation within a Graduated Licensing System. Research has shown that such initiatives may have an overall negative, rather than positive, effect on road safety (Lewis-Evans, 2010; Peck, 2011). Accordingly, care should be taken *not* to implement incentives as a trade-off for countermeasures that have previously been shown to be effective and that are designed to facilitate the accrual of on-road experience for learner and novice drivers.

4.1.4 Operant Conditioning and Behavioural Reinforcement

Relevant to the current review is the concept of Operant Conditioning and the use of positive reinforcers; stimuli that are added in order to encourage uptake of the course and ongoing engagement in the program (e.g. incentives for successful completion of each specific module in the course). Reinforcers can be delivered using various reinforcement schedules. Continuous reinforcement schedules reward the desired behaviour every time it occurs, while partial reinforcement schedules are as follows:

- Fixed interval (e.g. every hour or every day);
- Fixed ratio (e.g. every second time the behaviour is performed);
- Variable interval (i.e. unpredictable time based reinforcement); and
- Variable ratio (i.e. unpredictable number of times the behaviour is performed until reinforcement is received).

The reinforcers can also be delivered immediately or delayed. While there is no clear evidence in road safety for comparisons of the effectiveness of fixed and variable ratio schedules, variable ratio schedules are recognised in psychology through much previous research as having the longest lasting reinforcing effect (Burton, Westen & Kowalski, 2009). Immediate reinforcers are also generally recognised in psychology as having a stronger effect than delayed reinforcers (Coon, 2000).

Using a ‘token economy’ is also a tool for behaviour modification. In a token economy, tokens (e.g. frequent flyer points, or gold stars for the desirable performance of school children) are earned each time a desired behaviour is performed and when a predefined number of tokens are obtained then a reward is given (Butcher, Mineka & Hooley, 2007). As such, this is a tool for positive reinforcement where the tokens are eventually traded for a meaningful reward. Tokens can also be in the form of vouchers, points, or similar.

4.1.5 Current Road Ready Plus Incentives

Road Ready Plus offers two key incentives for participation in the program: extra demerit point allowance during the Provisional licensing stage, and removal of the restriction to display P-plates.

The creation of an extra demerit points allowance to Provisional licence holders, or the ‘banking of demerit points’ has been found to send the wrong message to young drivers in that it may undermine the threat of demerit point accrual as a key motivator to drive within the road rules (Bailey, 2011). As *Road Ready Plus* aims to address driver behaviour it could possibly be argued that graduates should learn from the course not to break the road rules and, therefore, not accrue demerit points anyway. However, it could also be argued that those who have accrued some demerit points early in the P1 phase may see the *Road Ready Plus* as a way to attain an extra demerit point allowance and thereby avoid licence sanctions. As there have been no evaluations to show if *Road Ready Plus* has a greater influence on driving behaviour than the threat of loss of licence, then the issue of an extra demerit point allowance (currently used as an incentive for *Road Ready Plus* participation) should be viewed with caution. Such a scheme is also currently in operation in Dubai (Issa, 2012). This scheme awards ‘white points’ for every month of infringement free driving (based on Police records), except where major traffic infringements have been committed in the past. The reviewers would suggest that the extra demerit point incentive is not ideal from a road safety point of view.

Not having to display P Plates presents potential issues for enforcement in being able to identify P Plate licence holders and ensure that they are complying with restrictions. Again it could be argued that *Road Ready Plus* graduates should learn to comply with all restrictions; however removing a mechanism by which restrictions can be enforced is also not ideal from a road safety perspective and therefore should not be deemed as an appropriate incentive to promote for uptake of the program.

4.1.6 Insurance Discounts as Incentives

Motor vehicle insurance companies are likely to prosper from increased levels of safe driving by novices, who are a high risk road user group and the source of many insurance claims. Therefore initiatives that allow insurance companies to see a positive effect on driving for this target group could be considered worthwhile sponsorship opportunities for insurance companies. This suggests that approaching insurance companies to sponsor programs or to provide incentives may be appropriate, and this could occur concurrent with piloting and evaluation of any new program material. Some instances where insurance companies have offered meaningful premium discounts for young drivers (e.g. *Pay-As-You-Drive*) contingent on display of safe driving principles and research has confirmed that such discounts have been useful for behaviour change in young drivers (for a review see Tooth, 2013). It seems reasonable that a similar approach might be adopted in the case of the *Road Ready Plus* program, where the evidence of safe driving practices/behaviour could be provided or monitored using telematics. Below are links to several examples of programs that use insurance discounts to promote uptake.

http://www.aami.com.au/sites/default/files/fm/news/Young%20Driver%20Index%2012_12_14.pdf

<http://www.buttecounty.net/publichealth/nursing/InsResrcs-TeenIncen2.pdf>

4.1.7 Token Economies and Prize Draws

Using a ‘token economy’ to score points towards a choice of prizes throughout the program, or indeed a random chance to win a major prize, may both be techniques to increase uptake of the *Road Ready Plus* program. The obvious drawback of this approach is that funding is required to provide prizes. Arguably, the ACT Government is paying for the program already and the cost of prizes is just another cost of the program administration. If the prizes lead to a greater overall effectiveness of the program, then they can be considered a legitimate investment, and one worth considering. Alternatively, sponsorship from external partners may be a viable approach. If potential sponsors can see the program as a worthwhile vehicle to promote their products or services to young people, or if sponsors simply feel a social conscience that motivates them to contribute towards the programs goals, then attractive prizes offered by the partner organisation/s may motivate uptake of the program. Links to current road safety education or research programs are given below and these show the use of a range of prizes such as fuel vouchers, travel prizes, and the chance to win a new car. Unfortunately there was no research found in the area of promoting road safety education that evaluates the effectiveness of such an approach on uptake levels.

<http://www.learn2go.com.au/competitions>

http://www.learn2go.com.au/learner_drivers/after_you_get_your_learners

4.1.8 Influencing Parents

Promotion for the uptake of programs for novice drivers, such as *Road Ready Plus*, can be targeted at parents as well as novice drivers. The incentives in this case must be meaningful to the parents. These may be motivators as straightforward as knowledge that their children are likely to be safer following completion of the course. Evaluations showing the safety benefits or attitudinal change as a result of the program would likely enhance this approach as a viable strategy to increase program uptake. While the approach of targeting parents in promotional activities to increase the uptake of safety programs by their children has not been evaluated, it may be that parents have a greater capacity to see value in such programs and therefore encourage their children to participate.

4.1.9 Resources, Planning, and Sustainability of Incentives Schemes

Using external sponsorship carries the challenge of sustainability, as sponsors' priorities and financial situations may change over time or they may not feel that their investment is providing sufficient return value to them. Hence, acquiring an individual sponsor may not provide the most sustainable approach. However using multiple sponsors may be a more viable approach because if one sponsor is lost then all incentives are not lost. Planning incentive schemes to promote program uptake in conjunction with sponsors would require considerable liaison initially to secure sponsors and negotiate terms. Establishing a dedicated position/role responsible for securing and managing sponsors may be beneficial if this approach was adopted. Resourcing for sponsorship may carry some ongoing administrative burden but development of suitable databases for the accrual of program points and the issue of prizes to participants from the outset may lessen this burden.

The use of other incentives such as insurance premium discounts would also require suitable liaison and negotiation with motor vehicle insurance providers. It would be expected that most of the administrative burden in applying the discounts would rest with the insurance companies involved. A prospective resource to use in conjunction with this approach is telematics devices. These may be seen as very worthwhile by insurers if ongoing arrangements for vehicle insurance with telematics could be negotiated for course participants. QBE Insurance has recently commenced such an initiative as per the weblink below.

<http://www.qbe.com.au/Personal/Insurance-Box/Insurance.html>

No research evidence was found regarding the resourcing, planning, or sustainability of any given approach used for increasing the uptake of voluntary road safety education programs.

4.2 Summary

Uptake of voluntary road safety education programs is likely always to be a challenge. Many other programs that are applied as a mandatory requirement within the school or licensing systems do not face recruitment challenges. The Review team believes that the current incentives in place to encourage uptake of the *Road Ready Plus* program are not founded in sound road safety evidence and arguably also do not provide a sufficient level of attractiveness. Unfortunately, there is a lack of evidence for the effectiveness of incentives for the uptake of similar programs, which therefore does not allow firm recommendations to emerge from this section.

5 Review of *Road Ready* and *Road Ready Plus* program materials and delivery

5.1 Introduction

This section focuses on the content of the *Road Ready* and *Road Ready Plus* programs from the point of view of pedagogy/andragogy and suitability of the delivery methods and techniques for the target audiences. In addition, brief comments on the extent to which the programs reflect the messages underpinning the ACT Road Safety Strategy 2011-20 are also given. The review team for this section consisted of Dr Alexia Lennon, Dr Lyndel Bates, Dr Peter Rowden and Ms Clare Murray.

In assessing the program content and delivery aspects, the reviewers have drawn upon the GADGET matrix developed by Peraaho, Keskinen and Hatakka (2003) as a framework for providing an overall assessment of the programs (see Appendix B). The initial stage of the expert review consisted of reading and viewing of the program materials supplied and rating the content and delivery processes in relation to the GADGET matrix and the reviewers' expertise in pedagogy and andragogy as well as road safety.

A summary of the overall findings in relation to the separate programs and preliminary recommendations as to potential revisions is presented in the next subsection below. Extensive tables with more detailed reviewer comments on the individual modules in each program follow these summary sections. For the tables, the reviewers have rated the extent to which each module/exercise is regarded as likely to engage the target audience(s) (the asterisks- see table key) and the extent to which the content or approach addresses those risk factors known to elevate young/novice driver crash risk (the ^ symbols).

The reviewers were provided with the resource kits for the *Road Ready* program as it is delivered in schools. In addition, materials from the program as delivered in *Road Ready* Centres (by Freebott) was also provided, and since this differed in several respects from the school version, a separate set of comments has been provided for this. *Road Ready Plus*, which is not delivered in schools, was reviewed separately and comments are given in the final summary table.

5.2 Summary of the review of the *Road Ready* program

Overall the reviewers concluded that the *Road Ready* program content is mostly consistent with identified best practice principles in relation to pre-learner and learner driver road safety education. The program designers are to be commended on this. In addition, the ACT Government is to be commended for ensuring good reach of the program by placing it as part of the requirements for learner licensing. Since reach is generally a significant threat to the effectiveness of road safety interventions, the reviewers would support the continuation of this requirement.

Specifically, in relation to the consistency of the *Road Ready* program with best practice principles, the reviewers note that the content:

- Seeks to improve young driver knowledge of safe driving and the factors that improve this
- Is aimed primarily at the higher order levels of driving behaviour, that is the motivational and self-evaluation aspects that underpin on-road attitudes and behavioural choices
- Targets attitudinal change especially in relation to voluntary risk-taking behaviours of speeding and impaired driving as well as addressing peer influences of young driver behaviour
- Encourages development of hazard perception and situational awareness skills, initially as a pre-licence passenger

- Encourages learners to develop strategies to deal with important barriers to safety, such as peer influence, obstacles to varied driving practice, and supervisor unavailability
- Is consistent with elements of the ACT Road Safety Strategy 2011-2020, particularly the directions in the Strategy that emphasize education to promote safe road users, and a focus on encouraging speed reduction and reducing impaired driving
- Does not include any vehicle handling skills practice that might inadvertently increase overconfidence or encourage earlier licensing
- Does not encourage earlier licencing than might otherwise occur

In relation to the consistency of the delivery methods of the program with best practice the reviewers note:

- The program utilises interactive components including student discussions, large group work, small group work, and individual tasks
- Presentation of messages on multiple occasions
- Materials that are likely to engage the target age group

The reviewers note that there are areas where program materials could be better aligned with the ACT Road Safety Strategy. In addition, the program modules currently do not address some important aspects of pre-licence education, and in some places adopt an approach that research evidence suggests is ineffective. In particular, the reviewers highlight the following:

- Absence of any reference in the program to the Safe Systems approach to road safety that is now inherent in the ACT Road Safety Strategy (and also in the National Road Safety Strategy). The tables below (see Tables 3-5) provide suggestions on the specific content and potential placement for this within the program
- Inclusion of material that might be experienced as 'shock tactics' or as designed to evoke fear as the primary response (see tables for location and suggestions for revision)
- While the overall purpose/objectives have been given for the program and for individual modules, some of these would benefit from re-wording to identify the anticipated learning outcomes for students, consistent with best practice in educational design

The reviewers were specifically asked to comment on the extent to which the program addresses vehicle safety and vulnerable road users, or could do so. Currently there appears to be little in the program that refers to safety features of vehicles. Modules 12 and 13 offer an opportunity to include reference to the Australian New Car Assessment Program (ANCAP) as well as the Used Car Safety Ratings materials. In addition, recent recommendations in relation to encouraging the parents of young drivers to use the family car or safest vehicle for supervising learner practice or for novice driving could be incorporated into these modules (see comments in the tables below). Similarly the program makes little reference to vulnerable road users. Opportunities to include pedestrian and motorcycle safety as well as seat belt use are suggested in the specific comments for Modules 3 and 5 of the school program.

5.3 Recommendations for revision of *Road Ready*:

1. Consider reconfiguring some modules and reordering the presentation of the later modules. Specifically:
 - The reviewers believe that the separation of alcohol from other drugs is an artificial distinction and one that is not useful. Moreover, the process for the drug related material is somewhat questionable. While the reviewers acknowledge the intended purpose behind the exercises, and commend the original developers for their creativity in designing materials that might be face-valid for the target audience, it is our belief that these may be counterproductive, encouraging teenagers to believe that the effects of drugs may not be terribly harmful as long as they don't

drive. In addition they may inadvertently encourage experimentation with illicit and illegal substances as a result of raising curiosity about the potentially enjoyable aspects of drug effects.

- Re-ordering of the modules so that students consider risk taking first, then alcohol/drugs, then hazards as this seems more logical and might be better for engagement than the current ordering

Materials should be revised in such a way as to be as interactive as possible since this is in keeping with teacher, facilitator and student feedback about what processes and modules are the most likely to engage participants.

2. Video materials should be updated: As these are quite obviously dated (colour, quality, apparent age of the vehicles depicted, fashions in clothing and hair styles) they may reduce engagement of the audience or invite adolescents to dismiss the relevance of the content to themselves. The feedback from facilitators and teachers in relation to this aspect of the materials (see Section 6 below) is consistent with this point: students appear to focus on irrelevant aspects of the visual materials and have trouble identifying with it as a result.
3. Update statistical facts to include more recent figures and present these in a way that will show young driver crash characteristics more clearly (see comments in the table below for detail).
4. Consider including more content and activities in relation to issues of speeding behaviour, distraction, fatigue, and vulnerable road users. Partly this could be accomplished by removing/reducing the sections in the program that are potentially less useful/effective (see comments in the tables below). The issue of distraction by mobile phones (texts and calls) should be included in the school-based program and materials as this is both a growing phenomenon and a serious safety issue for young drivers.
5. Emphasise the need for best practice in supervised learner driving practice i.e. maximise supervised learner driving practice (e.g. 100 hours if possible as is best practice in other states)
6. Consideration should be given to the structure and placement of the program in relation to the licensing process. It may be more effective for the program to be delivered in two sections, both mandatory, one occurring fully pre-learner and the second undertaken at a point where the student has both the Learner Licence and some learner-level driving practice, for example 25 hours. In making this recommendation, the reviewers are aware that considerable administrative arrangements might be needed to support an altered structure, with the second module more likely to be delivered privately rather than through schools as currently. Legislative changes would also be required to support mandating a minimum level of driving practice prior to full licencing. The reviewers would also see an outcome evaluation prior to any changes as critical.
7. Consider including some on-going/formative assessment of whether students are attaining the learning outcomes/goals. Some of the feedback from students suggested that they would be in favour of this also.
8. Consider either removing the requirement for mature-aged people to undertake the program, or revising the program to better meet the needs of mature-aged participants. While the reviewers are in favour of some form of pre-licence education for mature-aged drivers, the current program appropriately targets the highest risk drivers-young novice drivers-and hence is less relevant and engaging for adults.
9. Funding/resources should be allocated to an outcome evaluation of the effect of the program on crash rates/risk for novice drivers. As the program has been compulsory for over 10 years now, the various other road safety initiatives that might have presented threats to evaluating the impact of the program on measures of young driver safety might more easily be controlled for in analyses of measures. It is highly desirable that some form of evidence of effectiveness of the program on critical objectives be obtained.

5.4 Summary of the review of the *Road Ready Plus* program

Overall, *Road Ready Plus* adopts some best practice principles in novice driver education but also incorporates some elements that may be less effective. In particular, the reviewers note the following strengths:

- The program seeks to improve young driver knowledge of safe driving and the factors that improve this
- Targets higher order cognitive, motivational and attitudinal aspects of driving behaviour
- Encourages self-evaluation of attitudes and behavioural choices
- Targets attitudinal change
- Encourages development of hazard perception and situational awareness skills

However, some content uses material designed to evoke fear and strong negative emotions. This approach has been shown to be ineffective (see Lewis, Watson & Tay, 2007; Lewis, Watson & White, 2008a, 2008b).

5.5 Recommendations for revision of *Road Ready Plus*:

1. Modules and facilitator materials could be revised to include intended learning objectives for students for each module stated in terms of what the student will achieve
2. Module 5 should be substantially modified to incorporate more effective methods of conveying the intended messages or should be removed. Apart from the evidence that the current approach is ineffective as a method of achieving behavioural change, the reviewers were also concerned that the length of time allocated to this module is likely to be far too short for students with strong responses to the content to process their emotional experience and some could actually be traumatised by it: the material is very confronting.
3. Modules 7 and 8 are currently good quality. The reviewers believe that these could be utilised to even greater advantage with some revision of the content and activities (see specific comments in Table 3)

5.6 Review of the content and design of the *Road Ready* program

This section contains detailed comments on the materials and delivery of the *Road Ready* program. Separate tables have been included for the school-based version of *Road Ready* and the version as delivered by Freebott in the *Road Ready* Centres.

In the tables that appear below, engagement of the target audiences has been assessed only on the content and description of the process contained in the materials that were provided. Although the reviewers were able to arrange to observe the delivery of part of the program (Dec 2013, May 2014), observation of the whole program was not feasible. Naturally, the comments are limited by the partial view of the program delivery. However, the reviewers believe that facilitator or teacher skill in delivery as well as rapport with the target age group and specific class/group is critical to engagement. There was some evidence of this in the limited observations carried out: student engagement (high or low) appeared more contingent upon the process skills or knowledge of the person facilitating/teaching, than on the content and specific activities, though these were also influential.

Several of the recommendations listed below address modules, topics or specific issues that could be revised to strengthen the content of the program and bring it up to date with current best practice and research evidence in the novice driver area. In addition, the recommendations also address the sequencing of the content and the quality/presentation of the materials used.

Overall the reviewers have concluded that the *Road Ready* program content is aimed primarily at the higher levels of the GADGET matrix (see Appendix B), that is, levels 3 and 4 (A and B), with some attention to other levels where it is feasible. This is entirely appropriate since this is a pre-licence education program, and students/participants are unlikely to have any practical driving experience on which they might build or relate content that targets levels 1 and 2 (C and D), though the program and the timing of its delivery anticipates that

students are about to get their Learner permits and so commencement of driving practice is encouraged in the program. The focus on level 4/A is also appropriate because of the guiding nature and overall influence of underlying values, beliefs, person-related and lifestyle factors, and as outlined in the previous chapter, the evidence suggests that effective programs address this level in some depth while ineffective (or potentially harmful) programs do not.

Program materials appear to have been well designed in the main, and the original designers are to be commended on their accomplishment of this, and on the appropriateness of much of this material more than 10 years after its original inception. However, there are both general and specific suggestions in relation to improving the program(s) structure, content and process. One of these is that best practice in higher educational design (see Biggs & Tang, 2007) stipulates that programs should identify and state a limited number of overall learning objectives, and that it is desirable for the component modules to have the specific learning objectives outlined and stated clearly. While the overall purpose/objectives have been given for each program and each module, some of these would benefit from re-wording to identify the anticipated learning goals for students. This would have the benefit of clarifying the specific learning for each program/module and allow for design of measures to evaluate whether students have met or progressed towards those learning goals.

Overall, engagement of the target audiences was assessed as likely to be good to high, though the dated appearance of video materials is likely to detract from this, and should be updated as a matter of priority. In addition, materials should be presented in more electronic format (e.g. dvd, powerpoint, on-line) rather than as overhead projector transparencies, though OHTs could be offered in situations where schools do not have more modern facilities. As noted above, the comments here are based only on the resources supplied, and not on observation of delivery or feedback from stakeholders. The resources and approach used in the *Road Ready* Centre (Freebott) version were perceived as of greater likelihood to engage students, and there are modules where we would recommend that the current schools-based materials be replaced with the Freebott ones or an adaptation of them.

Several of the comments listed in the tables below address specific aspects of modules that could be revised to strengthen the content of the program and bring it up to date with current best practice and research evidence in the novice driver area. In addition, the reviewers believe that the sequencing of the later modules on risk-taking is more logical in the Freebott version and revision of the school version could include re-ordering to reflect this.

Overall the Freebott materials appear to be pitched at the right level for the slightly older target group that they cater to. Principles of adult learning seem well expressed in the way these have been designed and there were no modules/activities which seemed inappropriate in design. As identified above, we suggest that the objectives for each module may benefit from revision to couch these in terms of the specific learning goals for students.

Key to the table:

extent to which content/process is designed to engage adolescents at appropriate age/stage: **** likely to be highly engaging; *** likely to be good engagement; ** may not engage sufficiently; * unlikely to engage

extent to which content/process addresses issues known to affect young driver crash risk: ^^^ addresses at a high level; ^^ addresses at an adequate level; ^ may not address sufficiently; ^ may encourage greater risk taking or runs counter to addressing risk factors

Table 2: Reviewer comments on content and delivery of specific modules and components of *Road Ready* (school based version)

Content, School version	Reviewer notes/comments	Ratings
<p>Module 1</p> <p>A- getting ready for the road-</p> <p>Covers graduated licensing in ACT and the process for getting either a Learner Licence or a Provisional Licence</p> <p>Didactic input (on overhead transparencies 1-5)</p> <ul style="list-style-type: none"> -steps in the process of L licence; -what the course is about; -solutions to the flow charts -components of the testing for L <p>Activities:</p> <ol style="list-style-type: none"> 1. Intro: didactic and student activities <ol style="list-style-type: none"> a. Flow charts (2): process of Learner license; L to P b. Stimulus questions 	<p>Content in this module is structured well to engage students at age/stage.</p> <p>However, this component could begin to include challenges to beliefs. For instance: If everyone knows what it takes to be safe, why do people do unsafe things? (addressed in more detail in a later module but could be foreshadowed here first).</p> <p>For instance, the take home task could be modified. Students could interview/talk to 2 drivers (10 years' experience versus inexperienced- <2years) to pose first the question "What is a 'good' driver? (and note/record responses) and then ask "What is a 'safe' driver?"</p> <p>Teacher/facilitator debrief can then examine how the drivers interviewed reconcile 'good' with 'safe' driving, given that many definitions of good are likely to include vehicle handling skills involving risky behaviours/pushing the vehicle to its limits. Could also draw out the differences between experienced versus inexperienced driver views on this (hopefully there will be more recognition in the experienced drivers that vehicle handling/performance is not very relevant).</p>	<p>** ^^</p>

<ul style="list-style-type: none"> i. Adv & disadv of driving ii. Controversial q- focussed on whether driving is a right or a privilege iii. What does it take to be a safe driver? iv. Consequences of being unsafe driver v. What can you do to become safe driver <ol style="list-style-type: none"> 2. Students encouraged to access website and start learning road rules and using test on web 3. Take home activity to interview inexperienced driver and driver 5 years plus on “what makes someone a safe driver?” 	<p>Small typo in third dotpoint under point 1. ‘it takes a long time...’</p> <p>In the student workbook, it isn’t clear that the students need to complete two flowcharts. The wording at the start of the activity needs to be slightly amended.</p> <p>In the second flowchart in the student workbook (From L’s to P’s, p. 8), there is quite a bit of emphasis on ‘enjoyment, freedom, independent’ instead of on the responsibilities associated with driving.</p>	
<p>B: Putting driving in context</p> <p>Facilitator is involved in focusing students on the relative importance of driving for them personally and as a group. Discussion based, emphasis on the time involved in skill acquisition.</p> <p>Activities:</p> <ol style="list-style-type: none"> 1. Discussion and vote for most important upcoming event 2. Incorporation of previous session answers to questions on advantages & disadvantages; what it means to be safe; interview responses to what it takes to be safe, drawing out points of disagreement 	<p>Although this is likely to be very important to students, and therefore is focusing on goals that are salient to them, they are also likely to be very aware of these too. An introductory counterbalancing focus on responsibility should be included here.</p> <p>There is an apparent contradiction in the conceptualization of driving skills in the Teacher Resource Book (p. 19). While it is understandable that the skills of driving might be equated to skill in other sports and the process of acquisition of these might seem similar, other sports are not really compromised by intentional risk taking behaviours. Possibly this is because most sports that people play are not inherently life-threatening if you make a mistake, or take an intentional risk, especially at the novice or beginner level. However there are sports where there is high danger/risk (deep sea diving, skydiving, free rock climbing, spelunking,</p>	<p>****</p> <p>^^</p>

<p>and agreement</p> <p>3. Encouragement to begin planning with parents how they will undertake the learner driving practice</p>	<p>base jumping and so on). Students could be invited to consider whether they would attempt any of these without adequate preparation/experience and what types of safety measures they might want in place or what strategies they might want to develop first.</p> <p>An alternative approach may be to identify the types and levels of skills required in driving (physical; thinking/cognitive; perceptual -hazards, situation awareness) and emphasise the differences in the length of time it takes to master these (hours; days; years respectively). This could just be introduced at this point and elaborated in later modules (e.g. hazard perception). This might also be helpful in laying groundwork for encouraging greater level of practice in thinking/perception aspects of learner/novice driving experience.</p> <p>More encouragement could be included for students to obtain as much practice as possible. Best practice suggests the minimum number of hours required is 100 (though the review team acknowledges that to date, the research is not definitive on this optimal number).</p> <p>Could introduce idea that students think about some strategies to obtain as much practice as possible (eg. professional driving lessons, special practice sessions with parents, driving to and from regular activities such as school) at this point and elaborate as done later in course</p> <p>It is unclear whether p. 11 is supposed to include an activity for students in their student workbook (looks just like the following page which is an activity).</p> <p>If module 1 is delivered as one hour long session, then there is limited opportunity for students to be able to interview two people with differing amounts of driving experience and</p>	
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	<p>use these interviews in activity 2. This may need revising, especially if the activity is modified to become a more exploratory exercise that will rely on getting good quality information from the people interviewed.</p> <p>It may be possible to broaden some of the points made in 7 – 10 to include such concepts as people ‘drive as they live’ and explore “How do my values affect my driving?”</p> <p>Point 11 – Perhaps reality shows such as ‘Dancing with the Stars’ can be used as an example of how a person can excel in one area (be a star) but still need to spend time and effort learning and developing other skills (eg. dancing).</p> <p>30 minutes does not seem sufficient to cover the material in enough depth</p>	
<p>Module 2: Impact of road trauma</p> <p>Covers consideration of the life changing impact of a serious road crash.</p> <p>Activities:</p> <ol style="list-style-type: none"> 1. Melanie’s story (DVD) 2. Small group discussions to develop concept web recorded in workbook 3. Impact matrix in workbook (direct participants, present and future impacts) 4. \$ Costing of crash 	<p>This exercise may not be ideal in that it is likely to be experienced as ‘shock tactic’. Evidence suggests this is ineffective, particularly with the highest risk group (young men) (see Lewis, Watson & White, 2008, 2010, 2013). Hence while intuitively obvious, use of such material runs counter to the intended impact/effect.</p> <p>An alternative is to have a greater focus on examination of own personal qualities likely to increase risk e.g. sensation seeking, risk acceptance, susceptibility to peer pressure.</p> <p>This could be accomplished through use of short questionnaires (this age group usually loves these) to measure sensation seeking and/or risk acceptance and processing what this might</p>	<p>*** ^^^</p>

mean in the driving context as well as strategies to address these characteristics in self.

Another possibility is to focus on a common crash type that students might conceivably experience and the likely impact of these on the students eg. what would happen if they crashed Mum/Dad's car into the garage? What would happen if they rear-ended someone at the lights?

The costing of the crashes doesn't seem to be fully integrated into the activity. Moreover the calculations may prove difficult and disengaging for some students. The reviewers believe that adolescents of this age may not find such large dollar costs relevant or meaningful. This is an activity that could be removed/shortened.

DVD needs to be updated to be more modern. This is important as current quality might lead to lack of engagement with the content or dismissal on the basis that the vehicles and people are too hard to identify with or that modern vehicle technology would protect occupants better now and might not result in injury or not such severe injury

p. 11 of the workbook says that it is part of module 1 (typo)

It is possible to increase time for other activities by not including financial costs of crashes

<p>Module 3: Where when and how do crashes occur?</p> <p>Focus on statistics of crash occurrence, with graphical presentation of crash numbers (single year, most recent) broken down by age group, sex, day of week, speed zone, month. Also has a graph 'crash type' with pedestrian, single vehicle and multiple vehicle figures on single graph.</p> <p>Activities:</p> <ol style="list-style-type: none"> 1. Statistics: Stimulus questions using the stats encourage students to examine the potential reasons for the different patterns in the stats. Complete in workbook 2. Young driver crashes: Diagrams of crash types that involve young drivers <ol style="list-style-type: none"> a. students first try to explain causes, then rank according to severity (injury and fatal); rank according to frequency and justify choices b. Discussion in small groups as to factors that could contribute to each type of crash for young driver <p>Didactic input in relation to what drivers can do to avoid crashes</p> <ol style="list-style-type: none"> 3. Crashes or accident: drawing distinction between these and what is implied in use of the term. <ol style="list-style-type: none"> a. Use of Haddon matrix columns to categorise 	<p>Module 3 is designed to increase students' understanding of common crash types that involve young drivers and the different conditions under which crashes can occur. The module includes three activities to guide students towards these learning goals.</p> <p>It appears as if the three activities direct students to consider road crashes, the causal factors and young driver involvement in them. However, these may benefit from a re-ordering of the activities so that Activity 1 (What do the statistics show?) comes first, followed by Activity 3 (crashes or accidents) and then Activity 2 (Young driver crashes).</p> <p>The opportunity to discuss and think about the factors that are involved in young driver crashes and how these might affect them is very important to potential attitudinal and behaviour change. The stimulus questions should invite students to think about the role of voluntary aspects of behaviour here too, such as peer influence, overconfidence, and thrill seeking.</p> <p>This module might represent an opportunity to insert material that addresses more vulnerable road users eg motorcyclists and pedestrians; child car passengers. There is the possibility to show graphs of these for states/Australia and draw attention to the very high crash rates for motorcycles and take a 'myth-busting' approach to the causes of these. Drink-walking is an issue that is relevant to this age group but is probably more appropriately included in the risk-taking/alcohol-related modules</p> <p>What about the role of seat belts? Could this be included more directly? Especially since</p>	<p>***</p> <p>^^^</p>
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<p>crash causes</p> <ol style="list-style-type: none"> b. Brainstorm about the factors contributing to crashes and where these fit in matrix c. Stimulus questions in workbook d. Encouragement to identify how to avoid YD crash in learner period <p>4. Optional activity Who is safest?</p> <ol style="list-style-type: none"> a. Brainstorm skills of young vs skills of older b. Estimation of who is safest age group and compare with stats; also look at riskiest times and weather for YD c. Comment on reactions to stats in workbook d. Whole class debate using fishbowl method with topic: ‘young people really could be the safest drivers’ e. Encourage development of list of skills and strategies that would assist them to be safest drivers 	<p>adolescents are the demographic most likely to not wear or forget to wear (especially as rear seat passengers).</p> <p>Is the homework question on p. 26 of the workbook intended for module 3 or a later module?</p> <p>Specific comments on the activities:</p> <p>Activity 1:</p> <ul style="list-style-type: none"> • It is good that the figures are reasonably up –to-date • Graphical presentation is not used to best impact here. For instance, it may be difficult for learners to realize how over represented young drivers are since the age brackets for the graphs are not broken down finely enough. In this sense the more dated figures/materials from earlier versions of the RR program made these points more obvious. Perhaps this could be done by adjusting the age categories or using a ‘bath tub’ model instead. The reviewers have included an example of clearer graphs/figures at the end of the document (See Appendix E). • Graph 2 is stronger in that it clearly indicates the over-representation of males in crashes. • Graph 3 is a bit more challenging but may be suitable as a discussion point for this age group. • Graph 4 (speed limit at crash site) could be removed as the point it makes might be a bit too subtle (i.e. risks as related to exposure). The point could be made verbally or as a discussion- “where do you think most crashes occur, urban roads or higher speed roads?” If retained, it shouldn’t be so much smaller than the other graphs. • All graphs have a strong focus on fatalities. It is also important to indicate other potential outcomes of crashes (eg. serious injury) in some of the graphs. <p>The questions on page 16 may be difficult to answer using the information in the graphs on pp. 14-15 of the workbook. For instance, question 3 asks about why young people are more involved in crashes on Friday, Saturday and Sunday nights compared with other days of the</p>	
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week. However, the graphs provide data for all age groups. It may be more effective to include the information for young people only, and broken down by year of age (as highlighted above)

Similarly, question 4 talks about hospitalisation, yet there is no hospitalisation data included in the graphs. Question 5 asks why fatalities are spread across all hours of the day and night. Students could also be asked about the likely number of people driving (so still high numbers crashing but not many on the road).

Activity 2 seems to be a good activity in order for students to start thinking about the types of crashes that they may be involved in. It is a very specific activity with the 'possible solutions' provided in the teacher resource book being very general (eg. having plenty of driving practice etc). It is good to keep these kinds of point general. However, the first part of the activity asks students to predict the order of the five most frequent types of crashes involving new drivers that result in injury or death, a much more specific question. There doesn't appear to be any feedback regarding this activity for the teachers to give to the students.

Activity 3 encourages students to engage with the idea that they can take actions to limit their risk on the road. However, while most crashes are the result of human error, current thinking reflects the Safe Systems Approach. This suggests that we acknowledge the risk involved in driving and make more effort to structure the road environment and vehicles to limit the damage that occurs when someone crashes. The materials may benefit from some mention of the Safe Systems Approach but in such a way that it does not discourage young people from taking responsibility for their actions.

	Optional Activity 4 does not add much to the preceding three activities. It could be removed as an activity.	
<p>Module 4: Driving is a complex activity</p> <p>Didactic explanation that driving involves several skills and takes practice to be able to use all at once in a competent way.</p> <p>Activity:</p> <ol style="list-style-type: none"> The role play with 6 roles to demonstrate demands of the driving task and interrelationship between the various skills. Questions in workbook 	<p>Module 4 is designed to indicate that there are a number of skills involved in safe driving apart from the physical skills required to operate the vehicle. The module is also designed to indicate the importance of practice in obtaining other skills such as cognitive or perceptual skills.</p> <p>The first activity is engaging and useful in demonstrating the limited cognitive capacity of individuals and therefore, how it is difficult to focus on more than one thing at once. It appears very demanding and likely to be experienced as such.</p> <p>A potential extension to this (already included in the Freebott/RR Centre version) is to repeat the exercise with the driver also trying to operate a mobile phone (text messages that the driver has to respond to). This introduces the concept of voluntary distraction.</p> <p>The homework task for the first activity is provided at the conclusion of the activity.</p> <p>It may be more appropriate to set this as a homework task at the end of Module 3. The discussion of the homework task could then replace the first part of the activity where students discuss riding a bike.</p> <p>There is didactic material in the Freebott facilitator’s resources that could be incorporated here</p> <p>Activity 2 seems out of place in Module 4 as costs of driving are not related to how complex the driving task is.</p> <p>It may be better to relocate this material.</p>	<p>****</p> <p>^^^</p>

<p>2. Costs of driving: students generate list of benefits and costs to indiv, community and environ</p> <p>3. Optional: Skills of driving: brainstorming of skills required for safe driving and categorization into physical, cognitive, perceptual, knowledge; divide class and get groups to identify factors that affect driving under 4 headings (physical, social, emotional, spiritual). Sharing of these with rest of class</p> <p>4. Optional: Learning new things-choose new skills to develop and take baseline measure of current ability. Keep record over some weeks and note improvement. Focus questions in workbook to explore effect of distractions and practice</p>	<p>Point 2 of the activity asks students to record some costs and benefits of driving on p. 60 of the workbook. There is no p. 60 of the workbook.</p> <p>Point 5 and 6 of the activity refer to some related homework. It is important that sufficient time is allowed in the following class for students to report back to their class their findings.</p> <p>Activity 3 within the resource book is voluntary. I think it is a good activity for students to begin to think about some of the other attributes that impact on driving apart from skill. It is also a good link back to module 2. If the Melanie’s Story video is updated then this activity may need to be revised in line with the new video.</p> <p>The ‘w’ in the sentence ‘which of the four factors would have impacted....’ needs to be capitalised.</p> <p>Activity 4 is a good activity to emphasise the benefits of practising to obtain a new skill. However, while practice as a learner reduces crash risk it does not eliminate crash risk. I think that this point needs to be made explicitly during the discussion. Alternatively, some of the skills to be acquired could be those where risk is not totally eliminated (eg. rock climbing).</p>	
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<p>Module 5: Risk-taking and the roads</p> <p>Identification of the meaning of risk, risk-taking and safe, unintentional and intentional risks and risk taking; benefits and consequences of risks.</p> <p>Activities:</p> <ol style="list-style-type: none"> 1. Risks: <ol style="list-style-type: none"> a. Eliciting meaning of safe driving and of risk or risk taking; who is at risk of what b. Discussing intentional versus unintentional risk and relating to YD c. Relating points from previous 2 activities to the Melanie’s story DVD. Relating the risks/benefits to each other and inviting consideration of whether risks ever outweigh the benefits; d. Focus questions in workbook, followed by discussion e. Ranking of risk behaviour from list p. 25, individual first then pairs to decide top 5, then class to decide top one f. Brainstorming strategies to avoid risks with negative consequences 2. Why do people take risks? Didactic about types of risks YD commonly take due to lifestyle and commitments <ol style="list-style-type: none"> a. stimulus dilemmas of life and driving that increase risk-small group/pairs discussion 	<p>Module 5 discusses in an in-depth manner risk taking by novice drivers. It contains two activities that aim to provide students with an understanding that risk can be positive or negative, intentional or unintentional and to develop some strategies to manage this risk.</p> <p>The first activity actually appears to be a series of activities. It is good to start to address risk perception more directly and to highlight lack of intention inherent in inexperience. The activity may be effective in engaging students with the material as long as there is significant guidance from the teacher. It is unlikely to work effectively with limited class interaction.</p> <p>This activity also seems as though it would be difficult to complete within 30 minutes.</p> <p>A typo-The resource book in the final point of the first activity asks students to record their thinking on page 28 of the workbook- Should be page 26 of the workbook.</p> <p>A potential addition at this point would be to pose the question: ‘When you first get your licence, why should you take it easy on the road?’ and lead into a discussion about inexperience and what they will need to monitor and manage themselves once driving rather than having their parent/supervisor doing this.</p>	<p>****</p> <p>^^^</p>

<p>and problem-solving</p> <p>b. Class generation of strategies to manage the dilemma scenarios</p>	<p>Activity 2 talks about intentional risk taking. Dilemmas are good and most ring true and are likely to engage students. It is a good introduction to issues of driving when fatigued and not complying with seatbelt laws.</p> <p>Strategy generation is good too but could include more to address barriers to using the strategies they develop eg. optimism bias, third person effect, laziness, impression management. In this respect, more personalization is needed to promote self-evaluation-e.g. how much am I (personally) influenced by optimism bias? What personal barriers do I have to using the strategies to reduce risk?</p> <p>It is another opportunity to introduce some material related to vulnerable road users (as opposed to drivers). For instance, one of the scenarios may discuss how, as a pedestrian you walk across the pedestrian crossing without waiting to see if the cars will stop because you believe have 'the right of way'. However, relies on drivers to see you, and also act in accordance with you having 'right of way'. Also relies on trusting drivers to make accurate judgments about whether they will hit you if they just slow down rather than stopping etc. Dilemma 5 could be altered so it referred to someone on a bicycle or motorbike not wanting to wear a helmet because they didn't want to have 'helmet hair'.</p>	
<p>Module 6: What's this about hazards?</p> <p>Didactic input about what constitutes a hazard and how this creates problems for YD. Role of inexperience in this.</p> <p>Activity</p> <ol style="list-style-type: none"> 1. Hazards <ol style="list-style-type: none"> a. Brainstorming identification of potential hazards b. Application of tennis match prep to driving 	<p>Module 6 assists students understanding of hazard perception and the importance of being able to detect hazards in a timely way.</p> <p>The first activity involves students watching tennis footage and considering the various hazards and then directing student attention to how this is similar to driving.</p> <p>Use of the tennis match analogy may be a bit questionable, as compared with driving, there is limited risk associated with tennis that is beyond the player's control. It invites the conclusion</p>	<p>****</p> <p>^^^</p>

<p>Didactic input on YD risk behaviour in ‘emerging’ crashes</p> <ul style="list-style-type: none"> b. workbook exercises on role of each YD risk factor in the scenario c. replay of video and spotting of cues to the hazard; identification of alternative evasive action <p>2. Different viewpoints about speed</p> <ul style="list-style-type: none"> a. Stimulus statements and students position themselves physically along a continuum from agree to disagree. Facilitator debriefs responses b. Discussion/sharing of perceptions of speeding (record in workbook p 31) c. Identifying perceptions of which groups speed the most d. Discussion about heights versus speed and comparative height equiv to different speeds; exercise p32 of workbook <p>3. Three second rule</p>	<p>The first activity encourages students to use a road safety advertisement to think more deeply about the consequences of speeding. Conceptually this is good, though the materials are now so dated that they will benefit from replacement with updating.</p> <p>The ability in this video footage to allow students to see the point at which a different decision could have been made is a valuable one.</p> <p>In updating, other stimulus material that takes a ‘sliding doors’ approach (shows actual different outcomes for different choices) is also likely to be useful here, as is material that shows the effects of different speeds on stopping distance.</p> <p>This is an area most suitable for updated material and approach</p> <p>Activity 2: Students may engage well with the activity of responding to various statements along a continuum. However, there are concerns that, particularly with this age group, peer pressure will play a role (for instance, they all agree that there are times when speeding is acceptable).</p> <p>Part d, equating height to speed may not be very useful. This is an age group very experienced with theme park thrill rides that drop them from heights for fun.</p> <p>Activity 3, the three second rule exercise may need some modification to incorporate different circumstances eg. travelling distance may need to be greater in certain conditions such as driving in the wet. This could be covered by including an additional discussion point.</p> <p>Activity 4 encourages students to think more deeply about the factors that influence a driver’s choice of speed. The issue of benefits and risks is a tricky one to address for speeding as the rewards are immediate and apparent (eg. not having to stop for a red light) while the rewards/benefits of staying below the speed limit are less obvious (you don’t know how</p>	<p>***, ^^(^)</p>
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<ul style="list-style-type: none"> a. Students try estimating 3 second elapsed time; test counting and compare b. Explanation of three second rule and how to do it. Practical exercise of walking or jogging with 3 sec between (outdoors) and when expecting stops or not. c. Measure distance for 3 secs at walking versus jogging or running speeds (complete table p33). Stimulus questions to highlight different distances required. <p>4. Optional-speed</p> <ul style="list-style-type: none"> a. Stimulus summary of problems with speed/risk perception followed by writing letter to editor including strategies to address the identified issues <p>5. Optional speed data</p> <ul style="list-style-type: none"> a. Interviewing 3-5 other drivers about views on speed using 5 question tasksheet. Collation of results for whole class. Stimulus questions <p>6. Optional-speeding is it worth it?</p> <ul style="list-style-type: none"> a. Use of radar gun (can borrow) to measure actual speeds and following distances of 5-10 pairs of vehicles following each other. b. Stimulus question on following distance in workbook p36 c. Calculation of stopping distances at different speeds using tables in workbook p37. Calculation of speed of impact if travelling at 60 vs 50kph when detect and brake to avoid crash with pedestrian. Stimulus questions on evasive actions and consequences, etc. p 38. 	<p>many crashes you have avoided by not speeding), and there are real disbenefits (being stopped at the red light) as well as perceived ones (taking longer to get to the destination).</p> <p>Activity 5. The reviewers believe this should be removed from the resource kit. Given the number of people that drive above the posted speed limits, it is likely that the data collected will demonstrate this and thus inadvertently encourage students to see this behaviour as 'normal' or as acceptable in some circumstances.</p> <p>Activity 6. If feasible, this could be a very engaging activity. However, the calculation skills are also likely to be challenging for many. The background information for activity 6 refers to the 'recent reduction in the local road speed limits from 60 km/h to 50 km/h'. The wording needs to be revisited as it is likely to have been some time ago now.</p> <p>Activity 7. This seems very detailed and probably difficult to undertake in practice and therefore it should remain an optional activity. Part B would likely assist students to understand braking distance, which is potentially very useful. There appears to be a mismatch between the student and the teacher materials that might make this a bit confusing. For instance, the resource book does not refer teachers to the workbook for the table that contains the actual length to be measured by the students.</p> <p>There is an opportunity in this module to examine how cultural aspects may influence perceptions of speed (replace activity 2d) or Activity 5?) Stimulus material on what we know about speed limits in other countries could be introduced-Australia has one of the highest urban speed limits in the Western world, yet we know survivability of crashes (as in the Safe Systems approach) rapidly drops off at particular speeds of impact (and there are diagrammatic representations of this). However our speed limits are likely to colour our cultural appreciation of speed and the relative importance of travel times versus safety.</p>	
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<p>7. Optional physics of road crashes</p> <ol style="list-style-type: none"> a. Video of crash testing and stimulus questions on effects of speed on crash outcomes; application to real crashes. b. Use www to explore NCAP and safety features of different makes/models of vehicle 		
<p>Module 8: Drugs and driving</p> <p>Activity</p> <ol style="list-style-type: none"> a. Experiential exercise to simulate different drug effects on body and cognition b. Defining drug indiv and share in pairs <p>Didactic input on drug types, legal uses and benefits;</p> <ol style="list-style-type: none"> c. Stimulus questions workbook p 40 d. Experiential experiment on effect of combining different drug effects on task performance followed by discussion of these use prompt questions <p>Homework task to find out legal BAC limits L, P, Open</p>	<p>Module 8 aims to demonstrate the risk associated with driving while under the influence of drugs. While it contains activities designed to demonstrate the specific risk of driving while under the influence of a drug, this module could be conceptually and logistically combined with the module on alcohol and addressed as 'impairment'. This seems appropriate given that alcohol is the most common drug used. Combining topics would also allow more time for other activities to be completed.</p> <p>Activity 1 encourages students to simulate how taking drugs may feel.</p> <p>While the activities appear engaging for this age group, they may inadvertently encourage the conclusion that drugs are not harmful as long as one doesn't driver after taking them. Page 39 in the student workbook refers to this module but is not mentioned in the teacher resource book. It should be mentioned in the teacher resource book as it contains some useful information and categories.</p> <p>The activity/module doesn't really address the issue of motivation for taking drugs or for driving impaired</p> <p>The homework at the end of this module refers to the next module (module 9) which is probably the more appropriate placement</p>	<p>***(*) ^</p>
<p>Module 9: alcohol and road use</p>	<p>Module 9 demonstrates to students that the use of BAC to identify alcohol impairment is a complex measure and that the BAC levels of people are affected differently by alcohol.</p>	

<p>Activity 1: Calculating alcohol</p> <ul style="list-style-type: none"> a. Large gp sharing of what students know about how people measure alcohol consumed; intro of terms and defn BAC, standard drink b. Recording of facts in workbook p 41 <p>Activity 2: how accurate can a calculation be?</p> <ul style="list-style-type: none"> a. Practical exercise using alcoholic drink containers appropriate to age group in class reading labels for alcohol content b. Calculating BAC for self if consume 3 std drinks in 1 ½ hrs (use formula in OHT 8); c. Estimating what a std drink looks like in an ordinary glass (pouring exercise); discussion of problems with the concept of ‘std’ and calculating this d. Calculating how long in time for self to return to zero BAC after 3 std drinks in 1 ½ hrs; workbook calculation questions to complete e. Sharing strategies group uses to manage alcohol intake <p>Relating content to the Melanie’s story material; discussion questions in workbook</p>	<p>The activities seem complex but also seem practical. There may be risks to level of student engagement with the more complex calculations, even though these are important.</p> <p>Emphasis on the illegality of drinking any alcohol while driving on L or Ps is good; strategy development is also good</p> <p>Exercise assumes experience with alcohol and this age group may have very limited experience. No discussion of the reasons that might motivate people to take deliberate risks with alcohol.</p> <p>There is an opportunity here to include material that addresses reflection on individual planning ability as well as self- reflection in relation to own likely propensity to take risks with alcohol and the role models they have for alcohol use and risk taking.</p> <p>The Freebott materials use drinking goggles as a way to simulate impairment and this may be an effective activity to incorporate. It could replace some of the calculation activities</p> <p>The first paragraph under Teacher Background Notes on p. 104 should be amended so that there is no reference to 1 December 2010. These zero alcohol concentration laws came into effect three years ago.</p> <p>On page 104 there is a typo with the citation. The full stop should occur after the brackets and the final bracket should be deleted.</p>	<p>*** ^^^</p>
<p>Module 10: the choice is yours</p> <p>Decision-making processes and identification of 4 social domains of influence on YD decisions (family, peer,</p>	<p>Module 10 is designed so that students develop an understanding of decision making processes and practical strategies to solve problems.</p> <p>This Module is important as it addresses the higher order levels of life skills that have a critical</p>	<p>**** ^^^^</p>

<p>school, social/cultural).</p> <p>Activities consist of choice of at least 3 out of 6 problem-solving exercises of 30 mins each</p> <p>Activity 1: Deciding</p> <ol style="list-style-type: none"> a. Role play of 'safe conscience' 'unsafe conscience' and decision-maker (using an example scenario) b. Reflection on who influences/has most influence own decisions and why and in what circumstances in pairs; c. Brainstorm examples from own past decisions/behaviour of each of 4 influences (new info/knowledge; people; media/culture/religious beliefs; other such as past experience). d. Class discussion of strategies to successfully counter negative influences on decision-making <p>Activity 2: Melanie's story causal factors-committing to opinion and discussion</p> <ol style="list-style-type: none"> a. Non-verbal position in relation to causes of Melanie crash; students explain how they hold their opinion; reconfigure into positions on what would have worried them if they had been in that situation; again debrief reasons for opinion b. Posing of other questions in relation to ease of 'going along', who is responsible for crashing if everyone drunk c. Groups of 3 to discuss strategies they have previously used to avoid 'going along' when they didn't agree 	<p>effect on guiding behaviour including driving behaviour. While it may appear to not have a direct driving focus, it provides students with the opportunities to develop some decision making skills.</p> <p>There is a good selection of scenarios supplied for the activities. Some are more resource intensive than others and this might affect which ones are chosen.</p> <p>There is a good level of encouragement to get students to engage in self-reflection in Activities 1-3, (esp 1); less so in Activities 4-6.</p> <p>It might be better to require at least two of Activities 1-3 be completed plus one other from the remaining activities so that these more self-reflective opportunities are undertaken by everyone.</p> <p>Activity 1 appears to be invite a good level of engagement from students and self-reflection that is important to changing attitudes , beliefs or subsequent behavioural choices.</p> <p>Activity 2 may have some strong positive aspects. However, it may also be too confronting for many students to identify in a public place/class if they find it easy to resist peer pressure as it relates to drinking or using drugs.</p> <p>Activity 3 is used to develop useful strategies to resist peer pressure.</p> <p>Activity 4 should produce similar results to activity 3.</p> <p>Activity 5 is good.</p>	<p>(but not all options)</p>
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<p>d. Class discussion of 'safety devices' they can develop/use</p> <p>Activity 3: Making up your own mind</p> <ul style="list-style-type: none"> a. Physical game of negative-positive (but maybe...) potential thoughts about driving behaviour (examples are provided to start the game off). Debrief reflection exercise on paper and in discussion b. Small gp discussion of real experiences where they have been torn between safe/legal and unsafe/exciting c. Class discussion on useful strategies to resist doing unsafe things <p>Activity 4: Think say do</p> <ul style="list-style-type: none"> a. Pairs/small gp discussion of possible consequences of being a passenger with drunk/tipsy driver; develop list of clues/signs that person has had too much alcohol b. Think, say, do exercises starting with discussion about why these are often not in line; completion of matrix p 45 using 2 examples from options and one from own experience/ideas to think and then rethink safer say/do <p>Activity 5: What if...?</p> <ul style="list-style-type: none"> a. Set of dilemmas and students practice responding with what they might do in these situations in small group with everyone responding; determine most likely situation to happen, why and what best solution might be and why b. Large groups discussion and sharing of 	<p>Activity 6: Check if press reports are up-to-date.</p> <p>This activity seems less relevant and could be removed.</p> <p>Good allocation of time to this module (90 mins)</p>	
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<p>thoughts on most and least appropriate solutions, reasons, difficulties</p> <p>c. Individual completion of single what if situation in workbooks; report back to group</p> <p>Activity 6: Is this news?</p> <p>Court reports of drinking driving offenders and outcomes in ACT in recent past</p> <p>a. Discussion with stimulus questions as to the issues involved (eg should privacy be violated?)</p> <p>Similar discussion around road-side memorials for people killed in crashes</p>		
<p>Module 11: What does it cost you to lose your independence?</p> <p>Activity: Costs of losing licence</p> <p>a. Brainstorm recapping advantage/disadv of having a licence</p> <p>Didactic input in relation reasons people lose licence.</p> <p>b. Dvd on YD losing licence in rural area (RS educational advert) and discussion</p> <p>c. Small group construction of concept map of the various different impacts (workbook</p>	<p>Module 11 encourages students to explore what it would be like to lose their licence after they have been able to drive by themselves.</p> <p>Good to introduce consideration of consequences, especially for behaviours that did not result in a crash or injury. The focus on embarrassment and other social consequences is likely to be effective with this group, who may be able to relate better to this than to life-changing injury. Could also include material/input that focuses on loss of sporting involvement or employment impact from loss of licence.</p> <p>Given that they haven't yet had a licence, there may be issues with the content not meeting</p>	<p>****</p> <p>^^^</p>

<p>p50)</p>	<p>students at their stage.</p> <p>Potentially this content could be incorporated into the decision-making module and slightly less time spent on it. Alternatively it could be a homework task for the previous module. For instance: List all the things you are anticipating you will be able to driver yourself to independently once you get your licence. How much will you be giving up if you have to go back to dependence? Who would you be embarrassed to tell? What other relationships would be affected?</p> <p>The 'Rural Mum' commercial appears dated. However, the advertisement focusses on some of the other aspects of driving dangerously apart from crashing, which is an important aspect that needs emphasis. Is there another commercial that can be used in the same way for this activity?</p>	
<p>Module 12: Can I practice please</p> <p>Activity 1: Choosing an instructor and getting practice</p> <p>Didactic input in relation to the CBTA and examiner test pathways to licence</p> <ol style="list-style-type: none"> a. Generate a list of questions to choose a driving instructor (some examples provided) students record in workbook the most useful questions b. Brainstorming of common excuses parents might use to not take YD out to practice. Emphasise quid pro quo of getting parents to supervise. Students generate 'enablers' negotiation points/strategies to get practice (emphasise generation of safe/legal ones). 	<p>Module 12 assists student to develop strategies to gain on-road driving experience</p> <p>The module outcomes appear to suggest that it is important that learners work with both a professional instructor and a private supervisor. It is probably important that students are supported in choosing to obtain supervision only from a private supervisor as well as from only from professionals or some combination of the two. While we know that most learners do obtain some professional instruction (Bates, Watson & King 2010; Hirsch et al., 2006; Nyberg et al., 2007), this is simply unaffordable for some. Moreover, to date, the research evidence suggests that the two sources of supervision provide different safety benefits (Groeger & Brady, 2004; Tronsmoen, 2010) with private supervisors tending to provide more varied driving experience. The reviewers would recommend revision of the background notes to present the current evidence in relation to this, and deletion of questions 1 and 2 in Activity 1 as these may overemphasise professional lessons.</p> <p>We would also recommend inclusion of notes in relation to the evidence for minimum number of hours of practice that learners should have in order to develop sufficient</p>	<p>****</p> <p>^^^</p>

<p>Activity 2</p> <p>Record own blockers and enablers in workbook p 52.</p> <p>a. Using example scenario generate discussion around the wants, rights, responsibilities that affect YD in relation to getting practice and to driving and the inherent conflicts between these (stimulus questions provided and matrix in workbook p53).</p>	<p>experience. While the evidence is not definitive on this, it appears that the optimal level of practice hours is around 120 hours (and therefore supervised during a very low crash-risk period) (Gregerson et al., 2000; Willmes-Lenz, Prucher & Groemann, 2010). Thus the reviewers would recommend that ideally 120 hours are aimed for. Consistent with this, the notes should suggest that teachers/facilitators encourage learners to gain as much practice as possible, preferably close to 100-120 hours.</p> <p>The activity of identifying the blockers and enablers of supervised driving practice seems very useful and is likely to be highly salient for learners</p> <p>Activity 2: This scenario has some strong positives and students may relate well to it.</p> <p>This activity could also address or revisit generation/articulation of strategies that Chris could use to obtain some supervised practice. It is also important to encourage students to view this and other potential conflicts over learning to drive as resolvable.</p> <p>At this point in the module there is the opportunity to include material on the safety benefits of more modern vehicles, the ANCAP and the Used Car Crash Ratings information/availability (students could look at some of these and be directed to the websites). Could incorporate didactic input on the recommendations by many road authorities that parents allow and encourage their kids to learn in and drive the parents'/family/newest car because it is likely to have the best safety features</p> <p>Inclusion of didactic material on the safety of the learner period versus the provisional period (in the form of crash-risk graphs) may be of benefit too;</p>	
<p>Module 13: Road rules</p> <p>Familiarization with the road rules and the test required for licensing</p> <p>a. Discussion around why knowing road</p>	<p>Module 13 provides a number of possible strategies that can be used to develop student understanding of the ACT road rules. The resource kit includes several possible activities to assist in this process.</p>	<p>****</p> <p>^^^</p>

<p>rules is important</p> <p>Interactive activity/game to test knowledge of specific rules (3 suggestions outlined- learn specific section then teach to others in an interactive/creative way; two teams and questioner who asks questions for road rules nominates who will respond and awards points for right answers; use a bank of road rules questions and run like a quiz show (eg who wants to be a millionaire) with progressively higher prizes and knock-out/rotation of contestants.</p>	<p>Compared to some other modules there seems to be excess time within this module</p>	
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Table 3: Reviewer comments on content and delivery of specific modules and components of *Road Ready* (*Road Ready* Centre version delivered by Freebott)

Content <i>Road Ready</i> Freebott version	Reviewer notes/comments Freebott version	Ratings
<p>Module 1</p> <p>Getting ready for the road-and putting driving in context</p> <p>20-35 mins spent on</p> <ul style="list-style-type: none"> -details of course and expectations -name game incl 'what looking forward to about having licence' -outlining the process to get Ls -Discussion around why the program is compulsory (not required in any other state) 	<p>Initial session involves some administrative time/activities as this is a new group each time</p> <p>Warm up activities (name game) are also necessary as participants unknown to each other or instructor/facilitator</p>	
<p>Module 2: Impact of road trauma</p> <p>Show Melanie's story dvd and debrief with questions around how Ps feel, who should take responsibility, what are the effects</p> <p>Small group Concept web on butchers paper (rather than workbook) with large group sharing at end. Students pin webs up around room</p> <p>Didactic input about size of crash problem and costs</p> <p>Contextualizing as 44 people per day; what does this</p>	<p>Appears to have material that would encourage a better level of engagement than for school based materials as likely to be more contextualized.</p> <p>However suffers from same problems of the intensity of the crash itself, the shock tactic effect, dated materials</p>	<p>****</p> <p>^^</p>

mean to you?		
<p>Module 3: Where when and how do crashes occur?</p> <p>Focus on the statistics in the workbook and discussion around what these mean; what are the circumstances and conditions</p> <p>YD common crashes using set of group copies of types of crash showing at fault car and other road user</p> <p>Ranking exercise most-least common</p> <p>Discussion of avoidance strategies. Ps record in workbook</p> <p>Introduce the 3 second rule at this stage (rather than in later module); encourage thinking at least 5 seconds ahead</p> <p>Distinguishing between crash and accident</p> <p>Activity: pairs discuss a crash they have been involved in or know of</p> <p>Haddon matrix on Whiteboard</p> <p>Categorizing their crash examples according to which column most applicable to the primary cause</p> <p>Debrief including emphasis on human error underlying</p>	<p>As in the school-based version, while inclusion and processing of statistics is very important as it is concrete evidence of risk, the visual materials that are presented need to show young driver crashes and the specific statistics related to their risk.</p> <p>The inclusion of statistics for L drivers with those of P drivers may not be effective or appropriate. Focus should be exclusively on P drivers as they are the highest risk group while L drivers are the lowest risk group</p> <p>Optimism bias and third person effects may negate some of the benefits of the facts. Hence it may be appropriate to bring in a quick optimism bias illustrative survey here and encourage reflection on it and on observing own thoughts in relation to protecting self against reality of the figures.</p> <p>Focusing on a crash that they know of gives a more heightened engagement, however may not overcome the optimism bias or third person effect unless specifically addressed.</p> <p>Facilitators could do this with the discussion questions.</p>	<p>***</p> <p>^^^</p>

<p>most crashes even if attributed to other causes</p> <p>Invite reflection through 'What is the good news about this?'</p>		
<p>Freebott insert the module here in relation to the test- 10 mins in length</p> <p>(details eg. 2 test sessions are included in the fee; how many attempts, what questions and what have to get right etc)</p> <p>This information is necessary to the participants but probably not really content in relation to driver education itself</p>	<p>Administratively necessary</p>	
<p>Module 4: Driving is a complex activity</p> <p>Same cards based Fishbowl complex task activity but include loud radio at same time as all the other components</p> <p>Debrief what it was like to be the driver and intro sensory overload</p> <p>Relate to driving</p> <p>Relate to the 3 indiv skills of driving and how each aspect of game simulates each aspect of driving demands</p>	<p>These first two activities seem highly engaging and likely to be very face valid to this audience. Input is good and makes good use of linking to bring home points about human capacity</p> <p>Good illustration of impairment due to divided attention and physical demands of dealing with phone</p> <p>Danger is that students might develop the perception that with practice they can do all these things at once and might be motivated to try to 'beat the system'</p> <p>Self evaluation needs to bring in discussion around personal motives and choices to attend to texts and calls while driving; also own view of which aspects of driving are the most important on a personal level; suggested role play might be more around trying to influence</p>	<p>****</p> <p>^^^</p>

<p>Present didactic info on time taken to develop driving physical skills (10 hrs), thinking skills (50 hrs) perceptual skills (4-5 yrs)</p> <p>Second (added) exercise is simulation of using mobile phone while driving and impact this has on attention and safety. Uses same cards but adds in the messages on phone and task of responding</p> <p>Third (added) exercise Automated Game-folding arms usual and opposite directions examines extent to which driving processes can be automated relates this to sensory overload</p> <p>Fourth (added?) is take home task-involves observing and making notes about the following distance used by driver on their next passenger trip. Also encouraged to do some commentary driving (non-car based alternative also offered)</p>	<p>the driver's behaviour by being passengers in the car with own motives.</p> <p>At this point development of strategies to avoid distraction could be incorporated, particularly as applied to mobile phone use while in the car (e.g. put the phone in the boot; turn to phone off; add message to voice mail that you could be driving and this is why you will need to return the call/text rather than answer it). Challenge the group to come up with things they would contract with themselves to do to deal with this distractor.</p> <p>Activity 3 Seems like a good concept if it is accepted as illustration-could something more directly related to driving be chosen?</p> <p>Can theory about conscious & unconscious incompetence/competence be added in here?</p>	
<p>Freebott use next module for administrative stuff-setting up student files to allow them to receive certs and to complete licence applications at end of course (photos, personal details, attendance etc).</p>		

<p>Module 5: Risk-taking and the roads</p> <p>Starts with discussion of what dangerous vs safe drivers do</p> <p>Highlights that risk is confusing concept for some and links to idea of gambling or chance; link to Mel's story</p> <p>Raises question: can risk be eliminated? Introduces idea of safe driving as risk minimization</p> <p>Activity 1: 'Risk Continuum' on board- students nominate common risk behaviour note pos/negs; generate conclusions about relative balance</p> <p>Introduction to Optimism Bias and describe principle and ask 'what's wrong with this way of thinking?'</p> <p>Activity 2: Risk Table</p> <p>3 columns of risk on WB (known/unknown/solution)</p> <p>Students copy onto group sheet paper Elicit list of the 5 risk factors illustrated in Mel's story and categorise into one of the first two columns on WB</p> <p>Students same</p> <p>Students generate an additional risk for each col</p> <p>Write on paper then fold in half. Facilitator makes point</p>	<p>This version of the various exercises appears more face valid and might work better than school-based version.</p> <p>Discussion of the homework activity from the previous session is good to do here and invites reflection on what students need to do while they are drivers</p> <p>However, activities are based on Mel's story and this is possibly more easily rejected. It may be possible to use a less serious crash instead or redesign the activity.</p> <p>More could be done here to increase application to self and encouragement of self-evaluation/reflection. Needs to be borne in mind that optimism bias is not conscious and has positive effects on species/individual survival overall-just works against them in relation to activities like driving.</p> <p>Potentially Activities 2 & 3 together are good to highlight the role of unknown risk and unavoidability of this on roads but value of driving to conditions.</p> <p>However, the timing of the rewards and negatives for risk-taking also need to be considered. For instance, there is a perceived immediate and certain reward related to speeding (getting to your destination quicker etc.) when compared with negatives (receiving a ticket in the mail much later when likely to have forgotten the infringement and in the meantime may have been speeding on several other occasions without detection).</p>	<p>****</p> <p>^^^</p>
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<p>that this identifies risks but does nothing about them</p> <p>Activity 3: Kid brother</p> <p>Intro as re-enact of real crash due to driver taking known risks but being exposed to some unknown risks as well</p> <p>Students try to spot all the risks as the dvd played</p> <p>Debrief by asking about these</p> <p>Re-show dvd paused where group identify that can see the car that pulls out in front</p> <p>Rewind to where driver could have first seen it; debrief by asking about what could have been done differently</p> <p>Relate to general principles of increasing risk and consequences</p>		
<p>Module 6: What's this about hazards?</p> <p>Freebott cover this module after the risk taking, speed, alcohol and your decision modules</p> <p>Hazard mgmt. as more than just detecting hazards</p> <p>Concept of 'bubble' around vehicle</p> <p>Hazard as anything harmful that can enter bubble, but include lack of vision</p> <p>Activity 1: mapping of hazards in dvd footage onto map</p>	<p>This module ordering seems more logical than for the school based version.</p> <p>The activities also seem more face valid than school based version</p> <p>Ordering also makes more sense as hazards are likely to be more familiar after dealing with risk-taking and other issues of impairment.</p> <p>Activities 2 and 3 The focus on how to address or plan for hazards is also appropriate.</p> <p>Activity 4 This activity was more difficult to assess, as it may be useful in raising awareness</p>	<p>****</p> <p>^^^</p>

<p>on group paper</p> <p>Activity 2: Hazard response</p> <p>Watch video again and ask about what can be done to prepare for hazards?</p> <p>Define three stages of slowing down to be ready to stop</p> <p>Define buffer and apply to potential hazards</p> <p>Talking through preparing for hazards</p> <p>Comparing results of their strategies/plans</p> <p>Activity 3:</p> <p>Dvd footage of experienced driver pointing out hazards. Run through on mute then on sound to compare how Ps went at ident</p> <p>Highlight level of focus and concentration used/req</p> <p>Activity 4: the gorilla in the room</p> <p>Highlight that miss things when concentrating on other aspects</p> <p>Debrief</p> <p>Ps write down the hazard management points in workbook inside front cover (5 points)</p> <p>Encouraged to discuss getting practice at hazard</p>	<p>of the limits of human capacity or alternatively, this message may not be fully appreciated.</p> <p>The reviewers believe that the video of the gorilla in the room scenario is now probably familiar to many people and should be replaced. There are other similar scenarios that would have the same effect but are less likely to be familiar.</p>	
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<p>perception with supervising driver</p>		
<p>Module 7: Speed</p> <p>Freebott addresses module on speed after risk taking (so skips hazards and puts in after alcohol) instead of later</p> <p>Speed</p> <p>Kid brother has already been presented in previous module (the speed related crash dvd)</p> <p>Activity 1: Uses the workbook materials (article on speed)</p> <p>Facilitated discussion of what speed is and accuracy of human appreciation of speed</p> <p>Activity 2: Building height</p> <p>Slightly more interactive exercise with the falling from a building analogy (pretending they are really going to be in a car being dropped from those heights)</p> <p>Activity 3: Show dvd footage of speed related crash reconstructions</p> <p>Debriefed in terms of how they feel; which had most impact?; should ads show these things?</p>	<p>The kid brother video might be able to be used to assist in self-evaluation by stimulating discussion around the extent to which the driver was influenced by his own personal motives and what these might have been. Could also role play this as exploration of competing influences?</p> <p>Content that address how speed affects both the risk of crashing and the severity of the crash needs to be included here. This could be done as part of the introduction/debrief of the activities.</p> <p>Activity 2: This activity is inventive, but seems less than face valid. This is a generation that goes to theme parks to be dropped from heights at speed for thrills. Admittedly, they believe themselves to be safe from harm at the time, but this is analogous to speeding in a vehicle. Would it be more useful as an analogy to ask whether participants would be so keen to go on theme park rides if they didn't have safety guarantees? (e.g. if people were regularly killed or disabled as a result of riding on these)</p> <p>The likely perception that cars are safe at speed needs to be addressed, bringing in concepts of safety and security of the familiar.</p> <p>Activity 3: Good to attempt to involve emotions and evaluation of their influence; However,</p>	<p>***</p> <p>^^^</p>

<p>Relate to influence of emotion over driving behaviour/decisions and encourage to remember how they feel about the videos</p>	<p>current research suggests that this activity and the visual content is unlikely to have the desired effect. Needs updating to reflect what we know about speeding and eliciting emotion in advertising.</p>	
<p>Module 8: Drugs and driving Module 9: alcohol and road use</p> <p>Freebott address alcohol after speeding-and includes other drugs in general sense</p> <p>Alcohol</p> <p>Activity 1: Discussion to highlight points about what drugs are; types; effects of different types; specific relating to effects on driving; individual diffs; combos; type of drug alcohol is</p> <p>Activity 2: fatal vision goggles-3 pairs with different BAC equivalent and three stations with tasks to do while wearing. Debrief asking about what effects were on task completion; ask about additional effect of alcohol (on thinking ability); facilitate conclusion about effect of alcohol on driving ability and ability to judge own level of impairment</p> <p>Activity 3: calculating BAC</p> <p>Start with asking for defns of different terms; brainstorm methods of calculating BAC; discuss the problems with</p>	<p>This approach seems both more face valid and more engaging than the school based version</p> <p>Resources of goggles may prove expensive if supplying as part of the kit to schools. However, could economise by only providing 2 levels(?) Single level might not be effective</p> <p>There is a typo on page 26 of the book. In the final sentence of the first paragraph it needs to say that you can't be certain if you drive within 24 hours of drinking</p>	

<p>each, crossing them out as class concludes that they are not accurate (aim is to be left with police Breathalyzer)</p> <p>Class has a go at using the formula to calculate BAC; calculation of time to zero</p> <p>Facilitate conclusion that only certain way to avoid DD is either drink or drive but not both within 24hrs</p>		
<p>Module 10: It's up to you...</p> <p>Brief general discussion around why we don't always make the right decisions even when we know what these are</p> <p>Activity 1: making good choices</p> <p>Use the list of risk developed in the risk taking module and students have 1 min to write down good choices in the solutions column of own paper, then rotate to next group's table and do same (rules apply to what can be offered)</p> <p>Notes suggest that this should be upbeat and fun</p> <p>Discuss results</p>	<p>Activity 1 links back to a previous activity and this will likely provide a sense of continuity.</p> <p>The second activity should encourage people to provide a practical response to each of the risky situations.</p>	<p>****</p> <p>^^^</p>
<p>Module 11: costs of losing licence</p> <p>Freebott omit this one</p>		

<p>Module 12: Can I practice please?</p> <p>Freebott use the TV ads about practice for this one</p> <p>Activity 1: debrief what messages are in TV ads</p> <p>Highlight points about getting practice</p> <p>Activ 2: list of what want to learn while on Ls</p> <p>Small gp discuss/sharing of these</p> <p>Encourage showing to supervising driver</p> <p>Encourage commitment to learn everything on list before go for Ps</p>	<p>Materials seem more likely to engage the participants and be pitched at their stage than the school based version</p> <p>However, materials can still be updated to include info about Ls vs Ps crash risk but raise issue of what this suggests and invite discussion and self-reflection</p> <p>Activity 2 invites a good level of interaction with outside classroom life.</p> <p>Might be enhanced by setting the self-goals up as a contract with self (in writing to put on wall/in notebook/somewhere to remind self).</p> <p>Also include consideration of ‘What are own personal weaknesses at this stage (and how might address?)’</p> <p>Good time to introduce the idea that 100 hours is a minimum for practice and encourage participants to think in terms of more rather than less practice hours</p> <p>Encouraging participants to develop written contracts with their supervisors could also be covered here to facilitate practice hours.</p> <p>At this point it could be helpful to invite them to put the contract into action when they go home and to arrange for a copy to be sent to them post course (say 4-6 weeks later) to encourage self-monitoring of progress or development of action plan to bring them back on track if little/no progress.</p> <p>10 minutes seems too short for the activity</p>	<p>****</p> <p>^^^</p>
<p>Freebott call the last module</p>		

<p>Module 13: Where to now?</p> <p>Reflection on learning in the course</p> <p>Show Rural mum video</p> <p>Steps for testing recap</p> <p>What need to do for Ls recap</p> <p>Restrictions on Ls and Ps</p> <p>Demerit points and limits</p> <p>Highlighting <i>Road Ready Plus</i> program</p> <p>Complete the quiz and mark each other's</p> <p>Course evaluation</p>	<p>Good practice to revise/reflect on the program</p> <p>25 minutes seems a long time allowed for this compared to the previous module</p>	
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Table 4: Reviewer comments on content and delivery of specific modules and components of *Road Ready Plus*

Content	Reviewer notes/comments	rating
<p>Pre-course Activities (2 hours completed on these prior to attendance at the Road Ready Centre for the 3 hour program session)</p> <p>Original materials ask participants to complete two activities from a list of 8 (1 each from group 1 and 2) involving different types of process and products.</p> <p>Current Freebott materials suggest that the selection has been narrowed to consist of only 3(?)</p>	<p>Original activities seem varied and most seem likely to be engaging and would likely result in participants broadening their level of knowledge about young driver crash risk.</p> <p>Different learning styles and preferences seem well catered for in the diversity of these choices.</p> <p>Updated Facilitators handbook suggests that activities may have been narrowed to the observation of dangerous driving task and the road safety poster, so much less likely to meet a range of learning styles. However, this is not necessarily a problem for this part of the program as there is opportunity for diversity in other parts of the program.</p>	<p>****</p> <p>^^^</p>
<p>Module 1: Discussion of pre-course activities results to identify dangerous behaviours and the motives that might underlie them</p>	<p>Focus on observations of dangerous behaviours seems appropriate.</p> <p>Linking to motives underlying them begins to address the higher-order aspects of driving</p> <p>Linking between this module and the next is well done and likely to facilitate participant engagement</p>	<p>****</p> <p>^^^</p>
<p>Module 2: So what's the risk?</p> <p>Updated version has participants complete the Manchester Driver Behaviour questionnaire which encourages self-identification of risky on-road behaviours</p> <p>Original version of the program does not place this</p>	<p>MDBQ Questionnaire format is likely to be very engaging</p> <p>Facilitates discussion of important issues of risk; likely to be useful in encouraging reflection and self-assessment</p> <p>Self-selection of items to change encourages commitment and is consistent with adult</p>	<p>****</p> <p>^^^</p>

<p>here, but rather at almost the end of the program.</p> <p>Participants are invited to highlight what they would like to change about their own driving behaviours</p> <p>Facilitator notes suggest that mobile phone use and passengers influence be raised if group does not spontaneously include these</p>	<p>learning principles</p> <p>Could include some emphasis on driving behaviours as choices they make</p>	
<p>Module 3: Maze-Effect of distractions on driving</p> <p>This module revisits the complexity of driving and the effect of distractions on ability to drive appropriately or safely</p> <p>Participants complete a maze with the non-dominant hand while in context of high distractions (noise, competition, unsure of direction etc)</p> <p>Discussion to talk about effect on performance (errors) and what their own thoughts/responses were to the distractors</p>	<p>There are some good elements in this activity and it is likely highly engaging.</p> <p>However, there could be more face-valid versions of this. For instance, participants could complete the maze while trying to deal with a mobile phone text conversation with the dominant hand. Observers could time the number of seconds spent with eyes off the maze and the length of time to complete with and without distractions as well as the number of errors.</p> <p>Reinforcement of the legislation in relation to mobile phones should be included</p> <p>Could include listing of the types of distractions that participants experience (make sure eating, adjusting stereo, watching what's happening in other vehicles is mentioned as well as more obvious ones).</p> <p>Include encouragement of reflection on extent to which they drive with distractors, how often, what type, when, why?</p>	<p>****</p> <p>^^^</p>
<p>Module 4: Statistics</p> <p>Introduces the types of higher risk circumstances.</p> <p>Shows statistics in graphical form (powerpoint/dvd) and invites discussion of the reasons for elevated risk in the</p>	<p>This module is not clearly focused on young driver crash circumstances.</p> <p>As this group are more likely to be able to dismiss their elevated risk (and it is self-protective to do so or they would be too scared to drive) it is important to present material that is</p>	<p>***</p> <p>^^</p>

<p>depicted circumstances</p>	<p>highly specific to their particular driving circumstances and their risk as a result.</p> <p>This may involve revising the materials and using Australian or NSW based crash data for young drivers, especially P1 and P2 drivers, rather than ACT figures but this is preferable to losing the impact by focus on the general driving risk rather than young driver-specific risk. It is also useful to use figures from NSW because a focus on ACT crashes ignores the fact that many ACT residents are killed or injured on NSW roads.</p> <p>It would be good to emphasise fact that crashes are rare but have a serious impact when they happen and link people's lack of experience with crashes to the tendency to have a perception that risk is therefore low (when it isn't).</p> <p>Pose additional questions such as: What is an acceptable road toll for ACT? How many family members or friends would you be willing to nominate to pay that toll in order to be able to travel by car?</p> <p>Would be good for this module to have the same level of summary and linking to modules that occur next as other modules have</p>	
<p>Module 5: Videos of impact of crashes on real crash victims</p> <p>About 2 minutes of footage of family photos, names of crash victims, and crash location is presented along with a brief description of characteristics of the crash and the main factor deemed to have caused it.</p> <p>Participants are encouraged to reflect on their emotional responses to the footage and to share these with debriefing of the reasons humans experience such</p>	<p>Content and process in this module are of concern. The research evidence suggests that deliberately eliciting fear or negative emotions in response to road safety messages is likely to be rejected by the target group at highest risk (young men). There is no evidence that this approach addresses the underlying motives for risky behaviour.</p> <p>The approach falls under the heading of 'shock tactics' even though it is less graphic than other previous road safety advertising material has been.</p>	

<p>emotions.</p> <p>The intention is to connect participant emotions to risk taking behaviours and ‘anticipated regret’.</p> <p>There appears to be the option to screen several TAC graphic road safety advertisements (about 8 minutes duration in total) where actors are shown having crashes with fatal or serious injury consequences.</p>	<p>This module is in need of major revisions or removal</p>	
<p>Module 6: ‘What if..?’</p> <p>Introduces the concept of Low Risk Driving and encourages students to apply this in thinking about on-road situations where there is the potential for a crash.</p> <p>Activity 1 uses question and answer style of revision/application and facilitator guidance to completing the answers correctly</p> <p>Revises the idea of the 3 second gap and the ‘stopping zone’</p> <p>Activity 2 uses video footage of familiar ACT driving scenes from the perspective of the driver. Students watch for all potential hazards and discuss what they would do to prepare for each</p> <p>Activity 3 also uses video of driving scenes this time with the driver verbalising his identification of these. Group discussion/debrief and relating to potential</p>	<p>This module focuses on practical application of hazard perception/detection to encourage skill development in this area. The student completion of hazard identification followed by the experienced driver completion of the same driving route and hazard detection appears useful in encouraging reflection and self-evaluation of own perceptual abilities and identification of gaps in these. Students are likely to find this both engaging and highly salient.</p> <p>The reviewers had a little concern that 3 seconds is insufficient time at higher speeds.</p>	

<p>differences if distracted.</p> <p>Students record their thoughts/observations.</p>		
<p>Module 7: Action Planning</p> <p>Activity 1 Student revise their notes from the course and share those things they have found the most interesting or useful</p> <p>Activity 2 Students write themselves a letter that will be posted to them 3 months after the course. Set a goal and an action plan and letter will remind them of this</p>	<p>The focus on planning for change in the immediate future is a very useful one.</p> <p>This could be utilised even more than currently. Students could be encourage and coached to write a contract with themselves to change/improve an aspect of their driving, with the specific steps they will undertake to get this to happen. The student could then make a copy of this to be posted after 3 weeks so that they can see how they are progressing on their goal/plan. This would be intended as a prompt to monitor and adjust the plan according to how well it is going. A second letter sent after 3 months could invite students to reflect on their progress against the original goal.</p>	
<p>Module 8: Student evaluation of the course</p> <p>Students complete the evaluation proforma and receive their certificates</p>	<p>Currently the evaluation questions examine the facilitator skill and the learning environment. This could be better utilised by examining student perceptions of their achievement of learning outcomes.</p>	

6 Stakeholder feedback: findings from the interviews and surveys with *Road Ready* facilitators, teachers and students

Facilitator and teacher input to the review was regarded as a critical component of assessing whether the program targets the intended audience appropriately and to making appropriate recommendations for improvements to the content or process of the programs. Accordingly, detailed feedback on these aspects of the programs was sought via interviews and an on-line survey. Student feedback was also sought using the same methods, as described below. This component of the research was approved by the QUT Human Research Ethics Committee and the ACT Directorate of Education and Training. The researchers were required to obtain Working with Vulnerable People registration for the ACT.

Twenty-three public and private (Anglican) high schools as well as the private provider, Freebott, were approached to participate in this part of the review. A request for approval from the Catholic Archdiocese was submitted; however, although approval was granted, this was not received in time to enable contact with Catholic private schools prior to the data collection period (May 2014).

A total of 6 schools and the private provider (Freebott) agreed to allow access to staff responsible for delivering the programs. From these, a total of 15 facilitators (*Road Ready* Centres) and teachers (State and Anglican schools) agreed to be interviewed to provide their comments and views on the programs. On-site visits in Canberra were arranged for December 2013 and again in May 2014 and included 4 public schools, 2 private schools (Anglican) and both *Road Ready* Centres. For schools, inclusion was dependent on whether the *Road Ready* Program had already been run (since high schools in the ACT finish at year 10, the age at which most students become eligible to undertake the *Road Ready* program), and whether a visit during the proposed week was convenient (the high school visits were subject to separate ethics approvals which necessitated that data collection occur over two time periods).

6.1 Interviews

6.1.1 Method

One to one interviews were conducted with facilitators, teachers and students. Separate schedules were developed for the facilitators/teachers and the students. Questions for facilitators/teachers were open-ended and focussed on their experiences in running the programs, their views of the content and its effectiveness in engaging students in the programs, and their thoughts about the processes used in delivery of the programs. Examples of facilitator/teacher questions are “What do you see as the strengths of the program?” and “Which parts of the program need to be revised or updated?” (see Appendix C for a copy of the interview schedule). Facilitator/teacher interviews lasted around 25-30 minutes and detailed notes were taken during the session.

Student interviews were shorter in duration (approximately 10 minutes) and some took place in person while others were carried out by telephone. The interview schedule is included in Appendix D.

Obtaining feedback or input from the young adult subpopulation is generally reported as challenging for researchers. While the original design of the review anticipated that most interviews would be carried out in person, in practice, young people tended to be unavailable for face to face meetings except in the schools. As a result, only the school-based interviews were carried out in person, with the non-school based interviews being by phone. In addition, mature-aged students (that is, those aged over 20 years) in the non-school based programs were more responsive than young people to the invitations to interviews. Accordingly, most of the interviews with young people took place in schools. Most of the students from the *Road Ready* Centre programs were mature-aged despite the fact that this age group comprises a much smaller proportion of the pre-licence drivers undertaking the program.

Accordingly, feedback and comments summarised below have been separated according to the age group of the interviewees (young people aged 15-20 years; mature aged people aged 20 years or older).

Questions in the interviews asked students to identify the parts of the program they had enjoyed the most, enjoyed the least, and found the most challenging in order to get student feedback on whether they found materials engaging and relevant to themselves. In addition, questions focussed on whether the content and process of the program had met student expectations of what would be covered and how that would be accomplished, and their views on whether the program should be a compulsory step in the licencing process.

Participants

Teachers

A total of 15 Road Ready facilitators or teachers took part in a face-to-face interview. Of these, 7 were running the program in schools (teachers; 3 men, 4 women) while 8 were employed by the private provider (facilitators, 5 men, 3 women). There were some who taught both in school as well as delivering the program through *Road Ready* Centres, or who had previously done so.

Interviewees were offered \$25 cash in acknowledgment of their time.

Students

A total of 19 people who had previously completed the *Road Ready* program agreed to be interviewed. Of these, 10 were high school students (6 boys, 2 girls) while 9 had completed the program through a Road Ready Centre, some of whom were mature-aged pre-licence students (4 adolescents-2 girls, 2 boy; 5 mature aged- 2 men, 4 women).

Students were compensated \$10 cash in acknowledgement of their time.

Procedure

Six ACT high schools, and the private provider, Freebott agreed to allow access to staff teaching the Road Ready program. Interviews with Freebott staff were held during December of 2013. For schools, we liaised with the appropriate contact person at individual schools and visits were arranged during the week of 12-15th May 2014. Each visit lasted approximately 1 hour. Detailed notes were made during each interview and some interviews were also audio recorded. Written consent for the recordings and notes was obtained prior to interviews with facilitators and teachers. Students wishing to participate in interviews provided written consent from a parent/guardian prior to the interview, as well as consenting in writing themselves.

6.1.2 Findings from teacher and facilitator interviews

Although the research team only visited 6 schools (government and private), it was clear that the program is offered in a variety of formats with varying cost levied to students completing them. Programs were offered within the curriculum on a 1 hour-per-session weekly basis, on 1 hour weekly but as an after school optional program, as intensive 3 hour sessions over 4 weeks and as intensive 2-3 day programs within the school calendar (but not part of the curriculum). Some schools charged a fee for attendance (\$20-50) while others provided the program free of charge. For some schools the fee was used to allow purchase of equipment that then supported the experiential activities of the program (e.g. speed radar guns; 'beer' goggles) and for some fees were used to cover the after-school staffing costs. All teachers believed that the fees represented a cost saving to students since the *Road Ready* Centre courses were known to charge more, though there was variation in teachers' beliefs about the exact cost of the external programs (fees of \$140-200 were cited).

All teachers and facilitators who were interviewed believed the program was a good one, and was effective in raising awareness for young people in relation to the risks and responsibilities of driving, and was of an appropriate length. Some of those who were interviewed acknowledged that there were always a very few students who appeared to be motivated solely by the mandatory aspect of the program.

Teachers in schools appeared to perceive the Road Ready Centre-delivered program as easier for students to complete. There were perceptions that private providers did not require students to complete the program workbook, and that this somehow detracted from the quality of the program. Some teachers also thought that a weekend intensive program format did not have the same impact as one delivered over a more protracted period of time.

Below, the first section summarises facilitator and teacher responses to the interview questions. This is followed by the feedback from students.

Strengths of the Road Ready Program

Road Ready Centre facilitators

Facilitators of the program in the Road Ready Centres perceived the program as highly interactive, engaging students well, and allowing everyone to participate. They believed the activities and content were pitched at the right level for the age group and that these encouraged students to talk to one another as well as to share their views with the larger group. Several advantages of this interactive approach were cited: it facilitated peer learning through students interacting with one another; interactivity was seen as encouraging students and facilitators to draw on the combined experiences of the different people in the groups; it catered to differences in students learning styles; self-contribution to the learning experiences was perceived as more effective in bringing about student attitudinal change. Facilitators commented that the content was effective in raising student awareness of risk and encouraging them to recognise the responsibility inherent in driving. The program was also perceived as a strong indication of government support for young people in getting their licences as well as in driving. One caveat to these comments was that when the groups have wide cultural diversity or mature aged students, the activities work less well.

While the overall content of the program was highly regarded, and was seen as having a good level of variety, facilitators acknowledged that updating of some aspects needed to be more regular, more consistent (e.g. both videos and workbooks to have the same information) and more face valid (e.g. videos). Dated images in the videos were highlighted as distracting for students. In particular, the “Mel’s story” video was regarded as having highly relevant content for the target age group, and its basis in real life was seen as a strength. However, facilitators reported that they typically needed to spend quite a bit of time ‘setting up’ the context before screening the dvd in order to try to minimise the impact of the dated feel and look of the footage.

The program was described as well received in the schools and facilitators thought that high school students were keen to undertake the program. There was a perception that the program is offered free of charge in state schools, and that this represented a financial advantage to students since Road Ready Centres charge \$160 (at time of writing).

Facilitators commented that while some students might initially arrive with an expectation that the program will be boring, generally they find it interesting and have reported to facilitators that they get a lot out of it and even that it exceeds their expectations. Some facilitators have informal opportunities to follow up with students after completing the course and these facilitators report that students found the information about young driver crash types and speed effects have proved useful. Most students give feedback that they found the course taught them something.

Content was perceived as good in its focus on risk rather than road rules though some facilitators acknowledged that some students would have preferred a greater focus on road rules. One potential solution suggested is to give students the road rules booklet at the start of the program and encourage them to familiarise themselves with this in their own time.

Teachers

Similarly to the facilitators, teachers cited program content and relevance as important strengths. Teachers thought the program “gets students to think about what it means to be a road user” especially a driver. This was

expressed as having students begin to appreciate the consequences of driving and that “cars are dangerous weapons” as well as that driving is a privilege rather than a right. Teachers also believed that the program gave students a better understanding of what driving is all about. One teacher mentioned that he thought the thinking about the planning aspects of driving as well as needing to anticipate what others might do and developing patience and tolerance were important.

They too saw the interactive, hands on nature of some of the activities as a particular strength of the program. Discussion exercises around risks involved in driving scenarios were seen as a strength as they generated discussions about real behaviours and realistic dilemmas. Some teachers thought that this age group is already exposed to drugs and alcohol and that therefore opening up the discussion at this point was a good thing to do, while others thought that 15-16 year olds were unlikely to have sufficient personal experience with such things to make sense of the issues or feel them relevant to themselves. As with facilitators, teacher regarded Mel’s story as “powerful” and exposing students to the “downsides of driving, not just the privileges”, with one teacher putting it “...kids really get a shock with Mel’s story and Kid Brother”. There was a view that this type of input using a local story brings the road safety message home to students. Teachers also commented on the distracting nature of the more dated aspects of the videos, but as with facilitators, thought that the message was fine if materials could be updated. Some teachers noted that there was an overlap between some parts of the program and aspects of the school curriculum and that these were positive and reinforced content in both (e.g. speed material and physics; statistics of road crashes and maths; drug/alcohol material and Phys ed health/safety). Provision of the workbook was perceived as positive and as catering for lower literacy levels.

For teachers, offering the program in schools was seen as strengthening the program as teachers already have rapport with the students group and this was perceived as enhancing the quality of student discussions and the delivery of the program.

Teachers highlighted the high quality of the training provided for them preparatory to delivering the program as another strength.

Students are seen as very motivated in relation to signing up for and completing the program. This was used as leverage for ensuring minimum behaviour standards in some schools, and thus a strength of the program.

Perceptions of which modules work best, are most enjoyable and are easiest to deliver

Opinions in relation to the modules/content were also sought. Questions asked facilitators and teachers which of the modules they thought worked the best, which parts of the program participants seemed to enjoy the most or get the most from, and which modules were easiest to deliver.

Work best or most enjoyable

Generally those modules where the interactivity was greatest were perceived as working the best and having greatest student engagement. As a result, it tended not to be whole modules that were perceived as working best, but rather specific activities contained within modules. The following were identified:

- ‘Driving is a complex activity’ (Module 4) was cited by almost all those interviewed as working very well and as very popular with the students. Comments included reference to students recognising that they have to do a lot during driving and that this increases their risk of making mistakes. The energy level and engagement required to carry out this activity was also noted as making it popular: students were perceived as finding it really enjoyable.
- Mel’s story (Module 2) was also named as effective by the majority of facilitators and by some teachers. It was seen as getting students talking about the situation a lot and as a rich source for discussion. Several teachers/facilitators commented that the students always seemed subdued during the presentation of the video and this appeared to be regarded as having the desired effect. Several people commented that this being an ACT based story was particularly good and that it had a strong impact due to ‘reality’ aspect, being a common driving scenario, and putting “a human face to the

outcomes of poor driving decisions” as well as illustrating that there was no one person to ‘blame’ - all the teenagers decided to get into the car. Some mentioned the illustration of longer term impacts of the crash as useful to helping students see that consequences don’t always involve death. Several people said that student feedback was that the video delivered a ‘reality shock’ to them.

- Alcohol & Drugs (Modules 8 and 9) were generally seen as being very engaging as they involve use of the beer goggles and the simulation activities. As students find these activities fun, engagement was perceived as high.
- Speed activity identified by some facilitators and teachers as working well on the basis that it –“really disarms students” and dispels myths. Speeding video/ads material also seen as having a very strong impact on students and stimulating a lot of student conversation. Kid brother in particular was seen as surprising some students in that a relatively low speed resulted in death for the passenger (kid brother). This module also regarded as catering well to different learning styles. The ‘Three second rule’ activities were reported as engaging. However the activities where students have to use the calculators/do calculations (stopping distances) can be challenging to deliver as well as difficult for students.

There were other modules/activities that were identified by smaller numbers of facilitators or teachers as working well or as ones that students enjoyed:

- Module 3 ‘Where when and how crashes occur’ (statistics and graphical representation of crash types) was nominated as working well by some facilitators and some teachers, though this module was also regarded as highly problematic by others (see below).
- Risk-taking (Module 5) material was seen as offering the opportunity for the “lightbulb moment” as well as being pitched at a suitable level and being easy to get message across.
- ‘The choice is yours’ (Module 10) was regarded as having the potential to work well especially if the teacher/facilitator can get good discussion around the ‘what if’ scenarios
- Hazards spotting (in Module 6) was seen as raising awareness and giving students a better understanding of what is happening on road. However lack of clear definition was regarded as something in need of improvement by standardising. Use of local scenes was also mentioned by some as good in one respect (local content) but as distracting since students tend to focus on the differences or changes to the roadways and not the main message/point
- Practice (Module 12) includes an exercise where kids are encouraged to negotiate getting practice with adults and this was seen as a useful thing

Aspects of modules or program which students like least or enjoy least, which are in need of revision or which are challenging to deliver.

Video footage in the school-based version in particular, but also the Road Ready Centre version is now quite dated and most facilitators and teachers commented that students tended to become distracted by these, diluting the point of the activities or the messages (Mel’s story, Rural mum and Kid brother. In addition, some school based materials (e.g. Modules 1 and 3) are currently supplied as OHPs which is an outdated technology. Some teachers adapt to this by making their own dvd or powerpoint copies of the useful resources. However it is likely that some don’t and this probably makes the program more difficult to deliver. Though on a different topic, the ‘Hazards’ footage was also perceived as dated, and distracting as a result. Facilitators commented that there are differences between the *Road Ready* Centre version of the driving hazards materials and the school-based version of these and regarded the school based version as not very effective.

The absence of any reference to mobile phones as a distraction in-vehicle was highlighted as a serious omission in the program content. As this issue is specifically addressed in the *Road Ready* Centre version of the program (within ‘driving is a complex activity’ session), there were no similar comments from facilitators.

Module 3 material ‘Where, when and how crashes occur’ was mentioned by the majority of interviewees as a challenging module in terms of effective delivery and in terms of students understanding it. The updated presentation of recent crash statistics was highlighted as making it hard for teachers to get the intended message

across to students and this appeared exacerbated if the teacher was not from a maths background him/herself. Students were perceived as finding the interpretation of the current figures and graphs difficult and interviewees believed the message possibly gets lost as a result. The concept of exposure can be difficult to grasp. One facilitator uses a lottery ticket analogy to get this across and finds it is effective and makes sense to students. In addition, some facilitators highlighted discrepancies between what is detailed on materials that are updated regularly (powerpoint/slides) and the workbook materials which haven't been updated, creating a drift in compatibility between these over time. One teacher mentioned that this discrepancy creates a level of anxiety for the students who are very keen to pass and therefore inclined to feel panicked if there is material that is difficult to grasp.

Module 7- Speed was highlighted as having particular challenges in relation to both the amount of reading/text and the calculations involved. For some students, these aspects were seen as barriers to getting the message and engaging with the content or process. This module was also described as being very "dense", and although there are activities that involve the speed radar gum and students moving around outside the classroom, the concepts were regarded by some teachers as challenging and often difficult to convey (especially the falling form height analogy with speed).

Some aspects of the school-based course were seen as a bit repetitive, especially if the material or concepts have been covered in other subjects (e.g. speed is covered in maths/science).

Negotiation about practice (Can I practice please? Module 12), being a module delivered at the very end of the program was reported as sometimes being given very little time. Some teachers saw it as a less relevant module anyway, but others thought it was useful and therefore deserving of more attention. One teacher described giving this as a homework assignment and regarded it as a necessary part of the content and thought it could be covered in the program in more detail. Comments on this module appeared to be related to the student populations of the particular teachers. Some teachers seemed to anticipate that parents would be giving students a lot of driving practice anyway, while others seemed to think that the activities in class would not have much effect on whether parents did or didn't support student practice. It was unclear in responses from teachers whether the rationale for this module was fully grasped, and whether the connection between varied practice and decreased crash risk is being conveyed clearly enough. One facilitator commented that during informal opportunities to follow up with former students, they reported not doing much practice before getting their P plates. In contrast, one teacher said that students reported that they did get a lot of practice before moving on to their Ps.

'Choice it's up to you'- seen as being too short and having low face validity or being "pointless" by some staff for both themselves and students. One teacher commented that students don't seem to understand the need to rethink their decisions as they tend to respond to the scenarios with 'correct' solutions in the first place. Some facilitators perceived the content for this module as already delivered in the earlier modules on risk and crashes. One facilitator reported that he finds this works well if he has a larger group. However it is less effective in small groups (uses the angel devil version of the activities).

Losing your licence (Module 11) was seen as being difficult for school-aged students to relate to since they find it difficult to think about what it might be like to be dependent on having a licence when they don't yet have one.

Some facilitators thought that the alcohol and drugs module and workbook materials needed revision to give more emphasis to impairment and if possible to include more effective drug education. The message was regarded as not being clear enough in the program and some facilitators commented that they would prefer that the materials take a clear stance and advocate 'drink **or** drive' more clearly. Teachers commented that the BAC calculations in this module present challenges for many students and that this can result in loss of the message too. Some teachers thought that alcohol consumption was not part of the normal understanding for this age group and thus made relating to the material difficult, though opinions on this seemed to vary quite a bit on this issue.

One teacher thought that the activity related to the costs of trauma and crashes (Module 2) was not very interesting to students. Similarly, there were other teachers who mentioned that the ‘Costs of driving’ activity was not relevant to most students of this age as it was too removed from the kids experience and too theoretical for them. Two teachers thought the flow chart activities and material (getting a licence) were not very important, weren’t very clear in places and were boring for kids. Facilitators commented that administratively there are differences between what Road Ready tells students and details from the RTA (licencing body). There have been instances where licence changes have occurred but Road Ready has not been informed.

Some facilitators noted that the program targeted young people well but that this meant there was a lack of relevance of the content for mature aged people and people from non-English speaking or culturally diverse backgrounds (NESB, CALD).

Suggestions for improvement to the modules or processes of delivering them

General comments from facilitators and teachers in relation to improvements included a desire to see even more interactive material included in the program and the revision of some modules to provide a greater level of interactivity. While some teachers indicated that their schools had access to resources that assisted in this respect (e.g. class sets of ‘beer goggles’; a school speed radar gun; laminated visual materials), others did not and felt hampered by this.

Some teachers had accessed or created additional materials. Sourcing from the RTA, “Muck Up Day” and “Physics of road crashes” video were mentioned specifically.

The student workbook was commented on by several teachers as having good content, being useful to conveying the material to students, but in need of some modifications. In particular, the gloss level of the paper is problematic (doesn’t allow felt pen or pencil) and this matters to students who might want to keep the workbook in attractive condition (gloss causes smudging).

Other comments in relation to suggestions for improvement included the following:

- Mel’s story: Take this out as very dated looking; One teacher suggested an alternative dvd which has been made by a Canberra College former student in relation to his brain damage from a crash; using guest speakers who have suffered permanent disability from crashes were also suggested as alternative ways of conveying the same message. This part of the program was also questioned in relation to relevance to mature aged students
- Remove the “Choices” module and put the discussions of the issues into other modules
- Speed module- ensure that material is delivering a clear message which is memorable
- Hazards module- update the videos to be of current roadways as the identifiable footage of roadways that have changed so much is distracting for students; Commentary drive footage could be removed as the point can be made without the video; get more varied scenarios and include pedestrians and night time situations; need to include more material generally especially in relation to hazard minimisation; Activity with the ‘Gorilla footage’ should be replaced with something people are not as familiar with
- Include mobile phone content and activities into the program
- Risk activity- Need to simplify so that both facilitators/teachers and students can relate to it better
- Practice please- Passenger hazard perception practice/exercise could be formalised; Students could list what they want to learn from practice driving before getting licence
- Length of program could be increased eg by splitting into two parts (however parents/students may oppose this)

- Can a follow up/refresher/booster be added just before they go for their Ps?
- Include some input from driving instructors
- Include parent supervisors in some way especially if students can be followed up

6.1.1 Findings from student interviews

As outlined above, the student interviews were both shorter in duration and simpler in terms of the questions posed as the aim was more to obtain a sense of whether students thought the program was enjoyable and relevant to them.

Overall, responses from the young students (15-20 year olds) suggested that they mostly enjoyed the program and thought the content was relevant to them personally and their age group generally. Only one young student thought the program should not be compulsory. However, there were quite a few students who said that they thought the program was too long or had repetitive elements in it that left them feeling as though the duration could be shortened. Some students made comments along the lines that they thought this was due to some of the content in the school based program in particular being covered in other parts of their curriculum. In terms of the pace of the program, most young students thought that content was presented at appropriate pacing for them, though the students who had commented that the program might be too long also thought that it was a bit slow in places. There were also some students who had hoped that the sessions would prepare them better for the test or for the practical aspects of driving. While some reported that when they reflected back, they were pleased that it hadn't in the end, others maintained that the program ought to include these aspects (see comments below).

Comments about the process aspects of the program highlighted that young students liked learning in groups, appreciated the teacher/facilitator skill and attention to establishing a learning environment, and liked having variety in the sessions and activities. They found the interactive activities engaging and enjoyable, and several students thought that these could form a larger part of the program. However, some students commented that the structure of the program available to them (e.g. weekly session after school for 12 weeks; weekend session with strangers rather than school mates) did not suit them as well as they would have liked.

All students indicated that the interactive components or activities were the most enjoyable parts of the program, with "Driving is a complex activity" and the use of the beer goggles and speed radar gun mentioned in the majority of interviews. Young students identified the videos and material related to Mel's story as the least enjoyable or most challenging aspects of the program. They found these "distressing" and "scary", though some also commented that the thought provoking aspect of this material was effective. Content that focussed on the statistics of crashes, costs of crashes or the costs of running a car were seen as unenjoyable. Some students referred to these as "theory" and thought them less relevant as well as less interesting. The material on hazards and that on choices were mentioned by one student each as being least enjoyable, and one student regarded the drugs and alcohol material as irrelevant to him and therefore boring and unenjoyable.

Mature-aged student comments were more mixed than those from young students. Although most said that they had enjoyed the program and that it should remain compulsory, the content was seen as less relevant to their age group. To address this issue, several people suggested that programs should be offered that catered to mature-aged people and that these could be shorter in recognition of their maturity. However, they too reported that the interactive aspects of the program were the most enjoyable and would have liked to see more of these. They expressed a desire for the road rules to be included in the content, and thought that more on what to do in risk situations could be included too. One person commented that the emphasis on 'you're going to die' and fear-based appeals were the least enjoyable aspect of the program and should be revised. When asked about the most challenging aspects of the program, comments from mature-aged students suggested that there was nothing in the program that was too intellectually difficult. Some students commented that the videos and effects of crashes on others were confronting emotionally, or that the fatality statistics were unexpected.

Table 5: Notes from interviews with students who completed the Road Ready program 2013 or 2014

What did you like most about the program?

Young (15-20 yr olds)

“Crashes videos [school uses materials from the RTA rather than the RR program] really opened my eyes to what can happen on roads” “...showed what can go wrong if not fully focussed...alerted me to fact that we are in control of a machine” (M x 2, school)

Liked that we got to see how to deal with situations otherwise it would be overwhelming

All of it esp the information and that it wasn't all the same thing all the time 1 M, young; 1F

Liked the workbook and working through it 1

Facilitator was really good and she “felt looked after” 1 F non-school

Relaxed facilitator and atmosphere x 3

Getting it over and done with

That the course material seemed relevant to the test when it came time to sit this

Material on speed (crashes at different speeds) “really stuck in my memory”

Beer goggles

Driving is a complex activity x 6

“Answered the questions I had [about driving]”

Mature aged

Really valuable for practical aspects such as stats, beer goggles; Ls safest Ps most dangerous

Open class, with lots of student interaction; friendly; not stressful x 2

Beer goggles activity good for alcohol effect- “eye opening”

Hazards videos good to alert to what to look for and how to practice looking for these

Getting the L licence

The way material was presented as was engaging with good balance didactic and discussion, reading etc.

What did you like least about the program?

Young (15-20 yr olds)

“There was too much focus on Mel's story, which was less easy to relate to as the people were a bit older so I tended to tune it out....It is a sad story but I don't relate to it” Kid brother was easier as he has an older brother who drives (M, school)

Theory components in the book especially costs of crashes as it was a bit uninteresting and took 20-30 minute to do x2

There was a lot of writing

It was a lot of work-it was like another subject (sic) and there is homework to do and it takes up time and it would have been better to do it in class (afterschool program for this school)

Statistics didn't seem relevant x 1; stats was boring x1

“Choices was stuff we already knew”

Bits that weren't engaging e.g. costs of running a car x 2

Material on hazards was a bit repetitive

Alcohol and drugs material was hard to relate to as seems less relevant to me

“pretty simplistic” and “only learning what can go wrong rather than helpful stuff for driving test”

Logistics-location and time were less convenient and might have preferred to complete on own instead of in group though liked learning from others (non-school)

Size of the group seemed big and didn't think everyone got heard as a result (non-school)

Was there by herself and so felt a bit lonely (non school)

Sometimes it seemed like there was a lot to take in

It seemed a bit long (x2)

Mature aged

Fear based appeal and ‘you're going to die’ emphasis

Time taken to complete the program-2 days and needed time off work to do it-could be just one day

Location was difficult to get to by public transport

Too little on road rules-was frustrating to have to do this by herself later (CALD)

Not geared to older learner drivers

Which parts of the program did you find challenging?

Young (15-20 yr olds)

Watching the fear based videos-"this was distressing"; the videos were really confronting "so thinking about these was effective but challenging"; confronting in a good way; watching Mel's story was intense...found it surprising and scary

Interacting with others and felt a bit awkward but activities at beginning helped a lot

Driving is a complex activity as it made me aware of the tasks of driving and let me know that it will be hard to drive

Calculating costs of running a car as it's a bit hard to think about those situations when I am not yet driving

Risk taking module was a lot to take in

Test, as he is not very good at tests but confident that will pass on first attempt

Mature aged

Nothing was too challenging

However, thought there were challenges within the material such as challenging preconceptions of speed as ok "small extra speed has devastating effect"; crash effects on wide circle of people is "confronting"

Fatality stats were a bit confronting (26 yo) and different form "normal way of thinking"

Found brainstorming activities personally challenging as difficult to think this way (acknowledged they were a good process though)

Videos were very emotional

Did the program meet your expectations about what you would learn or how you would learn?

Young (15-20 yr olds)

Process was better than expected because it was more interactive

Exactly what expected

Good mix of theory and practice in the activities

Was more extensive than anticipated but this was a good thing; process was great and exceeded expectations

Liked learning in a group as can share answers

Was more fun than I thought it would be

Initially thought there would be more road rules stuff but actually preferred it in the end that they didn't

Otherwise was kind of what had anticipated

Disappointed that although the program was helpful, there was stuff in the test that wasn't covered in the classes

Would have liked more on getting ready for driving tasks

Knew what would happen as others had done the program previously

Thought it would be focussed on skills in driving so it was different from what I thought

Thought there would be more on road rules

Mature aged

Was exactly what expected

Thought road rules might be included but wasn't-however the program exceeded expectations and really enjoyed it

Felt very packed course but not much about road rules-however had been told this would be the case

Got brochures and what to tell a supervising driver as well as tips on what to do in driving conditions and this was good

Didn't have expectations beforehand but turned out to exceed them anyway esp as she is a cyclist and there were points in relation to motorcyclists that she thought were useful for her eg visibility; time taken to develop skills of driving/perception

Did you find the pace (how much was delivered when) of the program suited you? Why/why not?

Young (15-20 yr olds)

Good and appropriate

It was a bit slow in places, and more interaction would have been better; could have been faster
Good pace but it went on a bit long (13 week school based program). A more concentrated period of time would have suited better
Good pace but focus on some units was longer than preferred (e.g. who is affected by crashes; hazards; drug material as covered in school curriculum)
It was too slow and felt like we were there for a set number of hours rather than always learning something.
Could have more tests to check progress and learning throughout

Mature aged

Would have liked shorter, less contact time, more pre-prep such as readings or activities, more assessment
"Quite intense" but happy that instructor style was good

Fine

Do you think that the program should remain compulsory?(why or why not?)

Young (15-20 yr olds)

Yes – good to know about attitudes and that it's more than just the rule book to make a good driver (F, non-school); going into driving blind can be daunting so it's good to reflect-it has made me more careful (M, school); good to be made aware of being in charge of a powerful machine; good that people can't just get a licence and drive; I thought I knew it all so it has been good because I have learned a lot; gives everyone a good understanding of the road rules (sic) and stuff involved in driving

Yes but 10 hours seems too much-already knew some of what was covered

"It wouldn't hurt for everyone to do something but it wasn't what I would call the most enjoyable time"

Definitely as there are some things that we may not learn otherwise e.g. right of way, giving way, effects of alcohol, BAC limit

No should be recommended but not compulsory

Mature aged

Yes-alerts people to seriousness of crashes x 2

Yes in other countries less needed for licence and doesn't think this is good

Yes necessary for safety awareness-felt "more responsible" later

Yes as made sensitive to fact that not just driving but "taking life in own hands" which she found helpful. Used to think that speeding wouldn't hurt much but now realises that it will

No not for mature aged x 1 should only be for under 25yo

Suggestions for improvement

Young (15-20 years old)

More interaction needed

Would have liked more hands-on and more self-directed learning (school based);

Update Mel's story

Program raised awareness that crashes happen but didn't really know what to do about it e.g. if your friends are intoxicated at a party what do you do? Would like more real life application and focus on this (school-based)

Include more content

Have smaller groups so everyone can contribute and be heard (*Road Ready Centre* program)

Case studies would have been engaging; more small group discussion

Have some focus on practical skills; Include a practical session eg a driving hour

Focus more on intersections as this is on the test and don't really learn about this in the programs; also roundabouts

Some workbook questions were not specific enough and took a while as well as needing help from teacher

Mature aged

Include stuff that allows practice of perceptual side and detecting hazards; more on what to do in risk situations

Include more assessment

Have mature-aged specific sessions

Have more on road rules

Other comments

Liked the teacher ; Instructor was great

Good course

It was a bit long

Although it was 10 hours it felt like only 5-6 hours of learning

Shorten the length

Hazards material has benefitted driving lessons that now having

Has used the risk assessment and hazard perception material as a passenger since completing the program and found this useful

List of things to learn/practice for P plates-will do this before licencing

6.2 On-line survey

6.2.1 Method

In order to try to obtain a wider level of participation than just the interviews, an online survey was also developed. Similarly to the interview schedules, the survey was to allow teachers and students to provide feedback on their attitudes and opinions in relation to the *Road Ready* program, especially what aspects of the program they believed works or doesn't work well.

Responses were anonymous and no personal information was requested. All participants who completed the survey were eligible to enter into a draw to win one of four \$50 gift vouchers.

Participants

Teachers

Unfortunately, the level of teacher responses to the on-line survey was very poor, with only 4 people providing a response despite multiple reminders to the various schools during the time the survey was available.

Students

Response level to the student survey was better, with a total of 30 students completing the online survey.

Procedure

A letter of invitation was emailed to the school Principals and passed on to either the Year 10 Coordinator or *Road Ready* Coordinator for their initial consideration. Those schools who agreed to take part were provided with more information (recruitment flyers, participant information sheets and the necessary consent forms). The facilitators at *Road Ready* Centres were also conducted via email initially and then followed up via telephone.

After pilot testing, the student and teacher versions of the survey were made available via the QUT online survey portal 'Key Survey' for 3 weeks during May 2014. If the program had not yet been run in the school year, only the teacher survey link was provided. If the school had already run a *Road Ready* program by May 2014 (and therefore had current students eligible to respond to the survey) both the teacher and student survey links were provided to the *Road Ready* teachers and administrative staff at the school and they were asked to promote/advertise the survey to students. Teachers were able to complete the survey in their own time. For the survey, completion of the survey was deemed to be consent.

6.3 Results

6.3.1 Student survey

The student survey aimed to find out what young people thought of the Road Ready program.

A total of 30 students completed the survey. Seventeen students had their Learner licence (and the others had not yet applied for their Learner licence). Of those 17 students who had their Learner licence, 8 had received it within the last 3 weeks. The other had received it within the last 3 months.

The first part of the survey asked students about their views of the strengths and weaknesses of the program. They were asked to think back to when they did the program, and how much they agreed or disagreed with a list of statements. Response options were on a Likert scale with categories of: Strongly disagree (1) Disagree (2) Somewhat agree (3) Agree (4) Strongly agree (5). Table 6 displays the frequencies for each response, with the most frequent response for each statement highlighted in bold.

As can be seen in Table 6, overall, the majority of students (90%) liked the program and thought that it met their expectations (80%). Most students (73.3%) strongly agreed that schools should continue to deliver the *Road Ready* program. Students were also largely in agreement with the program being compulsory, with 66.6% of respondents disagreeing with the statement that the program should not be compulsory. Encouragingly, most students (93%) felt that doing *Road Ready* challenged their attitude to risk taking on the road, most (93.4%) also thought that it was effective in helping them understand how complex driving is, most (93.1%) found it relevant to them and relevant to driving (83.4%). The majority of students also thought that the program was not too long (66.7%) and that there was not too much filling in of workbooks (76.7%). Being able to interact with other students during the *Road Ready* sessions was supported by most students (83.3%). Most (73.3%) felt that there was not too much discussion in the activities and that there was not too much content to absorb or remember (76.6%).

The videos were seen by most students (80%) as being too old. There was mixed opinion with regards to the other program materials. There was also mixed opinion with regards to whether the program should involve parents. Somewhat contrary to findings from the interviews, only 20% of students reported here that there wasn't enough interaction in the activities.

Qualitative comments

The survey also included more open-ended questions related to the areas that were included in the interviews.

As one way of gauging the extent to which messages within the program are discernable, memorable and potentially effective with young people, two questions asked them to identify a single point that was useful and a message they would remember (see Questions 3 and 4 below). While there is some evidence that some students may have misperceived the point of the program (6 students identified the road rules as the most useful thing they had learned) most gave responses that suggested that key messages had been received. Students highlighted a wide variety of messages and most useful points, but this should probably be expected for a program of this duration.

Another point worth noting is that students appeared to most enjoy several content areas that are critical to future risk taking behaviour: drugs, alcohol, the complexity of driving, and risk-taking. Although this may be due in part to the highly interactive nature of the activities associated with these content areas (as noted previously), the responses are still encouraging. Perhaps unsurprisingly, given the challenging nature of the concepts and the ubiquitous nature of low-level speeding behaviour among drivers who would be highly salient to young people (peers, parents), the module on speed tended to be nominated as a least enjoyable module.

Responses for the separate qualitative questions are given below, organised by question.

Table 6: Student responses to statements about the *Road Ready (RR)* program

Statement	Strongly disagree n (%)	Disagree n (%)	Somewhat agree n (%)	Agree n (%)	Strongly agree n (%)
Schools should continue to deliver the RR program	0	1 (3.3)	2 (6.7)	5 (16.7)	22 (73.3)
RR should involve parents as well as students	4 (13.3)	11 (36.7)	7 (23.3)	6 (20)	2 (6.7)
RR should not be compulsory	10 (33.3)	10 (33.3)	5 (16.7)	2 (6.7)	3 (10)
Doing RR challenged my attitude to risk taking on the road	2 (6.9)	0	9 (31)	13 (44.8)	5 (17.2)
Videos in RR are too old	0	6 (20)	10 (33.3)	8 (26.7)	6 (20)
RR takes too long	3 (10)	20 (66.7)	5 (16.7)	1 (3.3)	1 (3.3)
I liked being able to interact with other students during the RR sessions	2 (6.7)	3 (10)	4 (13.3)	15 (50)	6 (20)
RR is very relevant to me	1 (3.4)	1 (3.4)	8 (27.6)	13 (44.8)	6 (20.7)
RR didn't seem relevant to driving	11 (36.7)	14 (46.7)	3 (10)	1 (3.3)	1 (3.3)
The RR materials were too old/outdated	4 (13.3)	9 (30)	10 (33.3)	2 (6.7)	5 (16.7)
The RR sessions didn't help me learn	8 (26.7)	16 (53.3)	2 (6.7)	2 (6.7)	2 (6.7)
I found some of the modules in the program very interesting	1 (3.4)	2 (6.9)	7 (24.1)	18 (62.1)	1 (3.4)
Some modules in the program were boring	2 (6.9)	16 (55.2)	7 (24.1)	2 (6.9)	2 (6.9)
RR is too short	3 (10)	21 (70)	5 (16.7)	1 (3.3)	0
There wasn't enough interaction in the activities	5 (16.7)	19 (63.3)	4 (13.3)	2 (6.7)	0
There was too much filling in of workbooks	5 (16.7)	18 (60)	3 (10)	3 (10)	1 (3.3)
There was too much discussion in the activities	7 (23.3)	15 (50)	4 (13.3)	2 (6.7)	2 (6.7)
RR was very effective in helping me understand how complex driving is	1 (3.3)	1 (3.3)	3 (10)	17 (56.7)	8 (26.7)
There was too much content in RR for me to absorb or remember	4 (13.3)	19 (63.3)	6 (20)	1 (3.3)	0
The program didn't meet my expectations	3 (10)	21 (70)	2 (6.7)	3 (10)	1 (3.3)
Overall, I didn't like the program	14 (46.7)	13 (43.3)	0	2 (6.7)	1 (3.3)

Q.1 “Which module or topic in the program did you enjoy the most?”

Responses to this question varied. The most commonly reported modules that students enjoyed the most were **Module 8 “Drugs and driving”** and **9 “Alcohol and road use”**. Several students reported that they enjoyed using the ‘drunk goggles’ because it showed them why using drugs can affect driving and how dangerous drink driving can be. Others said that it was ‘fun’ and ‘eye-opening’ to put on the goggles as a simulation for what it’s like to be under the influence. They commented that it was informative and it made them think differently about the decisions that they make. One student reported enjoying the ‘throwing balls’ activity and another student thought the video was ‘impressive’. One student commented that even though they don’t consume alcohol or drugs, it is still important to understand the issue and be aware of the rules and other drivers who might consume alcohol and then drive.

Module 3 “Driving is a complex activity” was the second most ‘enjoyable’ module. Students reported that they learned a lot and did some ‘very fun’ and ‘interactive’ activities to help them understand the ideas in the module. It made them ‘think more about what goes into driving a car’ and ‘how busy and difficult staying focussed can be while driving’. One student commented that they had no idea how many aspects their parents and friends have to focus on while driving – it was an ‘eye-opener to the reality of driving’. Another student enjoyed trying to concentrate on 5 things at a time (sorting cards, looking at road signs, being distracted by someone asking questions etc.) to demonstrate how complex driving a car and observing and responding to the road/cars (and how dangerous it is to take our eyes away from the road for even 1 second). **Module 5 “Risk taking on the roads”** gave students a ‘reality check’ that one risk could result in multiple impacts. They also thought it was ‘fun’, and included practical activities. Students found it interesting in terms of going out and actually seeing how many people were on their phones, turning heads and not obeying the 3 second rule because it made them realise how many reckless drivers there are on the road and how careful you have to be. One student also said that this did make them more ‘nervous’ about driving.

Two students reported enjoying **Module 2 “The impact of road trauma”**. They thought it was ‘meaningful’ because you don’t want it to happen to you or your friends and it reminds you about the consequences of not driving carefully.

Two students reported enjoying **Module 7 “Speed”** and commented that the video footage and work book components were good.

Two students enjoyed **Module 13 “Road rules”** because they thought it was ‘useful’.

Modules 1 “Getting ready for the road”, Module 3 “When where and how do crashes occur” and Module 12 “Can I practice please” were each reported by one student as being the most enjoyable. A further 5 students said that they liked “all of the modules” and found them all relevant and interesting.

Q.2 “Which module or topic in the program did you enjoy the least?”

There was also quite a mixed response to this question.

Five students reported either **Module 8 “Drugs and driving”** or **Module 9 “Alcohol and road use”**. They thought that Module 8 went on too long, was ‘boring’ and contained some irrelevant information. Two students commented that they’re not using drugs or alcohol so it didn’t seem relevant to them.

Four students reported **Module 7 “Speed”** because it was a ‘very confronting’ part of the course and the videos were ‘frightening’. One student felt that choosing 2 or 3 of the videos would have been enough. Two students said that they already understood that speeding was dangerous and too much time was spent talking about that.

A couple of students commented that **Module 3 “Driving is a complex activity”** involved a lot of writing and not enough ‘getting involved’. One student found it ‘boring’ because it took a while to learn it all in the amount of time that they had.

A couple of students thought that **Module 6 “What's this about hazards?”** was difficult, took up too much time and seemed ‘a bit pointless’. Another couple of students felt that **Module 12 “Can I practice please”** was irrelevant to them. Two students thought that **Module 13 “Road rules”** was their least enjoyable module. **Module 1 “Getting ready for the road”** (too general), **Module 2 “The impact of road trauma”** (too confronting), **Module 10 “The choice is yours”** (not interesting) and **Module 11 “What does it cost you to lose your independence”** (not interactive enough) were each commented by one student as being their least enjoyable module. Six students said that they enjoyed all of the modules, or that they didn’t dislike any of them.

Q.3 “What was the most useful thing you learned in the program?”

- Six students thought that specifically the ‘road rules’ or ‘learning the different signs’ were the most useful things that they learned.
- The ‘3-second rule’ was also reported as useful by four students.
- ‘That driving is very difficult/dangerous/high risk/complex’ was reported as useful by four students.

Other responses included reference to:

- The most common causes/types of crashes.
- The number of accidents that do happen and how much it costs the country each year.
- How many hazards there are, what hazards are and how to avoid them.
- That risk is minimised by being alert and responsible.
- That even if you drive perfectly you can still be involved in a crash.
- The suggestion to ‘tap brakes’ if you're unsure whether a car ahead will give way, to alert drivers behind you that you may need to brake suddenly.
- Ways to avoid danger like getting in a car with a drunk driver.
- Safe driving, road safety.
- That one mistake can impact on 100's of people, not just yourself.
- Little tricks about judging the speed of other cars on the road.
- That I cannot take my safety and the safety of other people on the road for granted.

Q.4 “What was one message from the program that you remember the best?”

- Don’t drink and drive.
- Don’t speed and every 5km increase will double your chance of a crash.
- Driving is about minimising risk.
- Remember the road rules.
- Drive safely/carefully.
- The three-second rule.
- Mel's story and how it impacted her and her loved ones.
- To always be aware of hazards and what other drivers are doing.
- That you may be a good driver but others can be idiots and kill you.
- You don't just put yourself in danger on the road.
- You will never be a perfect driver, and it's important to concentrate every time you drive.
- It takes a split second to ruin your entire life or another person’s life.
- The statistics – anyone can be involved in a crash.
- Always plan ahead, be responsible.
- Every decision is vital.
- Practice, practice, practice.

Q.5 “Thinking about the program overall, what parts/modules would you change and how?”

Some students commented that there was nothing they would change and that although some parts weren’t always fun or interesting, overall the modules helped them to understand each aspect of the program. One

student said that it had a good balance of practical videos, hands-on activities, discussion and writing. Another student commented that they wouldn't necessarily change the current modules but thought it would be interesting to see how a car actually works/what parts are in a car to better understand what instructors mean when they talk about various things such as manual versus automatic. Another student explained that he/she was an adult learner and therefore didn't find it as relevant as the younger students might have, and could see that it was aimed more at high school aged students. This person thought that an alternative, condensed program could be useful for mature-aged students who have more life experience and/or might have had their Learners for a long period of time.

Other suggestions for improvement included:

- Make Modules 8 and 9 shorter.
- Make Module 1 and Module 10 more interesting.
- Extend Module 13 on road rules.
- Add more interactive/practical activities to all Modules and in some places cut back on writing.
- Update the videos.
- Cut back some of the speed videos.
- In Module 11, ask students to do things without their hands or close their eyes.
- Module 6 needs to be more interesting and more relevant.
- In Module 12, explain how to ask someone properly.
- More about costs, i.e. fuel.

Q.6 Lastly, students were given the opportunity to tell us anything else about their opinion of the program.

This question largely received positive overall comments, including:

- The program is not like a road rule lesson (as had been expected) but more like a 'warning class'.
- The overall course was very well put together and has successfully taught me about the importance of safety on the road.
- Over all it was a great course and a great use of my time.
- I really liked it and found it extremely helpful.
- Overall it is a very good program that other states should do also. It helps you understand more about how to act on the road and prepares you for what you might face. There is also a lot of important information presented on road safety in general.
- The length of the program is fine and getting schools to run it as part of the year 10 program is great.
- I learned many things that I can use in the future.
- I preferred the engaging activities such as going out and seeing firsthand how important it is to be careful and alert on the road, however I didn't mind discussions and listening to what the instructor/teacher was telling us as well.
- Hands on activities definitely helped better convey the importance of the road rules and safety.

Some further issues that were raised included:

- Risk to cyclists was completely overlooked. They were only mentioned once in the context of being aware at a crossing that a cyclist might come out of nowhere.
- More of what it would actually be like in a crash for young people to realise just how dangerous it can be on the roads.
- More time on intersections, slip lanes etc.

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Appendix A: Summary of Australian young driver programs/initiatives and results of evaluations (if conducted).

Name of program/initiative	Jurisdiction	Stage of licence	Description	Comments/evaluated or not
Keys2Drive	National, Australian Government funded	Learner	<p>Learner and parent/ supervisor attend a free 60 minute lesson with an accredited driving instructor.</p> <p>Uses learning approach 'Find Your Own Way' to empower learners to become safer drivers.</p> <p>Lesson involves an explanation of the approach + practical demonstration of the skills being used and taught.</p> <p>http://www.infrastructure.gov.au/roads/safety/keys2drive/index.aspx</p>	Preliminary evaluation conducted by TARS (see literature review).
School Road Safety Education Program	NSW	Year 10-11	<p>Curriculum-based program including the resource "Limiting risks- protecting lives. Choices for novice drivers and their passengers".</p> <p>Consists of 7 modules to deliver 18 key road safety messages.</p> <p>Various activities designed to support each module.</p> <p>http://roadsafety.transport.nsw.gov.au/stayingsafe/schools/road_safetyeducationprogram.html</p>	<p>Independent teacher online survey conducted in 2010.</p> <p>Positive feedback with almost all teachers indicating that each of the 7 modules were either very useful or useful.</p> <p>Teachers indicated that they resource was excellent, practical, user friendly, of high quality and linked to the most recent research. They felt that students found the activities very interesting and was highly regarded.</p>
AAMI Skilled Drivers Course	National, can be undertaken in all states except NT	For anyone under the age of 25 with a P or open licence (not learner permit)	<p>1 day theory and practical course with an accredited driving instructor.</p> <p>In a group, common issues that young drivers have to deal with are explored.</p> <p>Then in a training area, drivers get experience with how speed affects their ability to control the car, how to react to sudden changes in traffic conditions, what happens when you stop</p>	<p>Preliminary evaluation conducted by MUARC (see literature review).</p> <p>Course is free if the driver, their parents or a grandparent have a comprehensive policy with AAMI (or \$190 if not a member).</p> <p>When completed the young driver gets 10% of their</p>

			<p>suddenly, how much space you need to leave between you and the car in front.</p> <p>http://www.aami.com.au/skilled-drivers</p>	<p>premium until the age of 25.</p> <p>Course is run in the capital city of each state.</p>
Transport for NSW Safer Drivers Course	NSW	Learners who are under 25 years old and who have completed 50 log book driving hours	<p>Combined theoretical and practical course.</p> <p>3 hour facilitated group discussion on how to manage risks on the road.</p> <p>Followed by a 2 hour in-vehicle coaching session to practice a range of safe driving behaviours.</p> <p>Run through 14 course providers throughout NSW.</p> <p>http://roadsafety.transport.nsw.gov.au/stayingsafe/drivers/youngdrivers/youngerdriverscourse.html</p>	<p>Implemented in July 2013 and developed by a board of independent road safety experts.</p> <p>Cost \$140.</p> <p>Upon completion the learner receives 20 hours of credit in their log book.</p> <p>If participants also do 10 hours of professional driving lessons, they receive a further 20 hours of credit on top of the 10 hours they drive during the lessons.</p>
Keys Please	VIC (VicRoads)	Pre learners and learners	<p>Free 70 minute information session for Year 10 students run by a VicRoads presenter.</p> <p>Session covers why young drivers are at risk and why driving experience is so important, the importance of learning to drive in stages, importance of developing a positive partnership between learners and their parents, and working with instructors.</p> <p>Road to Solo Driving, the Learner Kit and Guide for Supervising Drivers are additional resources available to pre-learners and learners as part of a package of material provided by VicRoads.</p> <p>http://www.vicroads.vic.gov.au/Home/SafetyAndRules/SaferDrivers/YoungAndNewDrivers/KeysPleaseInformationSession.htm</p>	<p>Parents/supervisors can also attend, or view the online resource <i>Lessons from the Road</i> for tips and videos.</p>
Fit to Drive (f2d)	VIC	Learners and Ps	<p>Community program for young people that concentrates on personal safety and responsibility giving them strategies for</p>	<p>Directly funded by the local community.</p>

		(Year 11)	<p>making them safer on the road.</p> <p>Half day Year 11 workshop in Secondary and TAFE Colleges facilitated by trained peer facilitators or Road Safety Ambassadors.</p> <p>Students examine their own levels of risk taking and values and the course empowers them to make safer decisions about what they can do to reduce road crashes.</p> <p>www.f2d.com.au</p>	<p>Currently takes place in 150 state, catholic and independent secondary colleges around Victoria.</p> <p>Sits within the other Victorian Traffic Safety Education initiatives (Keys Please in Year 10 and RACV Free 2 go Passport both described elsewhere in this table, then in Year 12 the screening of the TAC video “Muck up Day”, presentations by the Teenage Road Accident Group, Looking after Your Mates presentations and other community events. A community youth forum is held later in the year where young people from participating schools develop strategies to address road trauma in the local community.</p>
Drive Smart (CD ROM)	VIC (TAC)	Learners – with some supervised driving practice (40 hours suggested as ideal)	<p>Free CD Rom training program which helps learners practice skills and become a more experienced and safer driver as they work towards getting their Ps.</p> <p>Covers a range of scenarios and quizzes where decisions are based on safe driving practices.</p> <p>http://www.tac.vic.gov.au/road-safety/learning-to-drive/drive-smart</p>	<p>Based on 3 years of research at MUARC using their driving simulator – was also evaluated (see literature review).</p> <p>An online version to be made available by the end of 2013.</p>
Safe Drive Training	National Organisation but the high school based education program is in SE QLD	Pre learner, learner and Ps	<p>Since 1996 Safe Drive Training have provided a number of high school based education programs in SE QLD, including:</p> <ul style="list-style-type: none"> ▪ 1-4 hour Safe Driving Lectures delivered in schools, ▪ Physics in Motion program for physics students to learn about applied “laws of motion’ in terms of road safety outcomes, ▪ Safe Driving Expo – full day road safety excursion aimed at pre-learners and uses various resources such as beer goggles, simulators and skid tyres ▪ Defensive driving course covering the fatal (then) 4 ▪ 3 hour alcohol education program using a Simulated Impaired Driving Experience drunk driving go kart ▪ Provision of a range of education products and 	<p>The organisation offers a range of driver education products and training programs to private participants, education institutions, multinational companies, local industry, police and government departments.</p>

			resources to be used in schools http://www.sdt.com.au/	
Learn 2 go	QLD (RACQ)	Learners	Free online resource to assist QLD learners' record and keep track of their 100 hours in an official online learner log book. Also access to tips and facts to help making learning to drive easier. Provides several guides for learners about the licensing process, risks and facts, and what to do when the unexpected happens. Driver skills videos, checklists, information about instructors and also the Learner Drives resource that offers pre-determined drives throughout Queensland to encourage the skill development of learner drivers on our roads. http://www.learn2go.com.au/	Learners and supervisors register for an account and also have access to a mobile app.
Free 2 go	QLD (RACQ)	All QLD residents aged 16-19	RACQ's youth membership program to support young drivers. Program is run over 4 years and seeks to address the needs of the new generation of road users. Offers a range of supporting information and practical skills videos and checklists. http://www.free2go.com.au/	Each member gets 1 year free road side assistance for the second year of their membership (when get Ps). Then optional half price road side assistance in the 3 rd and 4 th years (when 18 and 19 years old). *First year of the program is supporting by Learn 2 go (described above). Free to join for those in Year 11 and 12 (or aged 16/17). Half price to join if 18/19 yrs. Also discounts to major retailers, attractions, restaurants. Access to competitions and special offers. Discounts on RACQ insurance and vehicle inspections. Access to RACQ services, travel tips and accommodation discounts.
Keys 4 Life Online	National online recourse	Pre-learners and learners	A practical interactive learning e-program to assist individuals to gain a driver's licence and understand safer driving as a fundamental component in gaining and sustaining employment. It has 3 components: <ul style="list-style-type: none"> An interactive DVD – 5 modules with each containing an overview, content and self-correcting activities. Multi-choice tests at the end of modules 1-4. 	Funded under the Workplace English Language and Literacy Program by the Australian Government Dept of Industry, Innovation, Science, Research and Tertiary Education. Development supported by SDREA (School Drug and Road Aware) – WA's State Governments primary drug and road safety education strategy. Development assisted by the

			<ul style="list-style-type: none"> ▪ A facilitator guide to help facilitators and workplace mentors. Contains background information, activity instructions and language, numeracy and literacy notes. ▪ Learner Journal – ‘Behind the Wheel’ is a workbook that participants can use when working through the DVD. <p>http://www.keys4lifeonline.com.au/</p>	school based Keys for Life Program (see next).
Keys for Life	WA	Pre-drivers and learner drivers aged 15 to 18 years (i.e. Year 10 or 11 students).	<p>An award winning school road safety program that aims to develop positive road user attitudes in young people.</p> <p>The program acknowledges driving as a necessary life skill and promotes the importance of supervised driving practice, how to get a licence, safer driving skills, reducing risks, safer cars, planning, decision making and responsibility.</p> <p>Keys for Life includes a comprehensive teacher resource with student workbooks, 2 DVDs, a CD, posters, a parent booklet and the DriveSafe handbook.</p> <p>SDERA have developed a 1 hour parent-learner session called Keys for Life parent workshop. This session is usually run in the evening at the school and conducted by a member of the RAC Community Education team (in metro areas), or a SDERA Project Officer (in regional areas). Parents/carers are invited to attend this one-off session together with their teenager who is participating in the Keys for Life program. The main aim is to learn about, plan and discuss the importance of driving practice and other road safety issues.</p> <p>http://www.det.wa.edu.au/sdera/detcms/navigation/for-schools/resources/keys-for-life/</p>	<p>Keys for Life has been developed with funding from the Insurance Commission of WA and support from the Road Safety Council of WA.</p> <p>One of the program incentives is that students can start the Learner’s Permit application process at school and redeem a Keys for Life school certificate for their Learner’s Permit. They achieve this by sitting the legitimate Learner’s Permit Theory Test at school rather than at a licensing centre.</p> <p>To access the resource and assist teachers to deliver the Keys for Life program a one-day, fully funded workshop is offered to all schools throughout the state.</p> <p>Impact and process evaluation conducted in 2010 and presented at 2010 Australasian Road Safety Research Policing and Education Conference (see literature review).</p>
Resilient Drivers Program	WA (RAC WA)	Learners (Year 10 to 12 students)	RAC education is committed to educating Year 10 to 12 students on road safety. The program aim is to influence risk reduction, increase resilience and encourage responsible behaviour to help keep students safe on the road.	<p><u>Decade of Action: Road Safety</u></p> <p>This workshop is the foundation unit of the RAC Resilient Drivers program. The workshop provides students with an understanding of the importance of general road safety and</p>

			<p>The Resilient Drivers Program consists of several presenter-led, activity-based road safety workshops and a youth road trauma awareness event (bstreetsmart).</p> <p>All workshops are 45 – 50 minutes in length and are free for groups of 15 or more students.</p> <p>http://rac.com.au/news-community/community-education/for-schools</p> <p>http://rac.com.au/cs/groups/public/documents/internetcontent/raccont022916.pdf</p>	<p>how they can help make our roads safer.</p> <p><u>Back Seat Driver</u></p> <p>This workshop highlights the role of young people as passengers in vehicles. It provides an opportunity for students to explore and identify the part they play whilst travelling in a car.</p> <p><u>Drink, Drugs and Driving</u></p> <p>This workshop focuses on the effects of alcohol and drugs whilst driving. Students are given the opportunity to participate in hands-on activities and experiment with fatal vision goggles.</p> <p><u>My Decisions, My Destination</u></p> <p>An activity based workshop developed to increase student understanding of the impacts their driving choices can have on their lives and the lives of those close to them.</p> <p><u>Buying a Car</u></p> <p>This workshop provides students with an opportunity to reflect on the important considerations of purchasing a vehicle. In addition Year 12 students have the opportunity to take advantage of 12 months free Standard Roadside Assistance through the RAC free2go youth membership program.</p>
Bstreetsmart	WA (part of above RAC Program)	Year 10 to 12 students	<p>bstreetsmart is a free youth road trauma event held for school students in years 10-12 to increase the awareness of issues relating to road safety for young people.</p> <p>The event comprises of a crash scene re-enactment, attended by professional emergency services personnel, and hearing from guest speakers who have been personally affected by road</p>	<p>RAC bstreetsmart is scheduled to be held at Perth Arena on Wednesday 9 April 2014.</p> <p>RAC partners with St John Ambulance, Department of Fire and Emergency Services (DFES), WA Police and Royal Perth Hospital (RPH) to deliver this event. In 2013 RAC bstreetsmart was watched by over 5000 students.</p>

			<p>trauma.</p> <p>http://rac.com.au/news-community/community-education/bstreetsmart</p>	<p>RAC bstreetsmart also won the 2013 “Outstanding Achievement Award for Community Innovation” at the Injury Control Council of Western Australia’s annual awards.</p>
<p>Paraplegic Benefit Fund (PBF) Prevention – Road Program</p>	<p>WA</p>	<p>Pre-learner and Learner (Year 10-12 students)</p>	<p>RAC supports PBF to deliver an innovative and powerful road safety program <i>PBF PREVENTION –Road</i> that encourages young people to make safer choices about road use.</p> <p>A 60 minute classroom session includes:</p> <p>The “Three” DVD “Three real-life stories; three young people with a world of opportunities; three split second choices that changed their lives forever... In three raw and emotionally confronting interviews, the enduring, irrevocable consequences of road trauma, particularly spinal cord injury, are shared with the viewer. Stories present personal perspectives of those who have been injured, and the lasting effect on those closest to them - best friends and a parent. Exploring the themes of popular culture and health, including decision-making skills, personal-assertiveness and risk-taking behaviour, ‘Three...’ has strong curriculum links.</p> <p>A personal testimony from the presenter. The presenter shares with the student’s life before their injury, how their injury occurred, and the impact on the presenter's life and the lives of the people around them.</p> <p>Scenario based activities that help students identify risk-reduction strategies.</p> <p>Question time which allows students to ask questions. This opportunity serves to raise awareness of disability within the community and break down any barriers that may exist.</p>	<p>The RAC and the PBF share a strong commitment to road safety and work closely to communicate road safety messages to the Western Australian community.</p> <p>Facilitated by people who have sustained a spinal cord injury through a road trauma event, the PBF Prevention – Road program provides a first-hand account of the emotional, life-changing and enduring impact that a serious road crash has and assists students in identifying risk-reducing strategies.</p> <p>The RAC and PBF work together to enhance the delivery of education to pre-drivers and novice drivers by encouraging schools to take a coordinated and program based approach to their road safety education.</p> <p>Developed in close consultation with teachers and students and is an important component to road safety in schools.</p> <p>All presenters are trained in facilitation techniques, presentation, listening and communication skills, have an understanding of youth risk-taking behaviours and youth road safety issues.</p>

			http://www.pbf.asn.au/index.php?id=41	
RRISK	NSW North Coast	Learners	<p>Health promotion program that addresses risk taking behaviour amongst Year 11 students.</p> <p>The Program includes a seminar day preceded and followed by a range of in-school activities. Incorporates factual presentations on risk taking, alcohol, drugs, safe celebrating, safe driving and vehicle safety and is enlivened by drama, life stories and role models. Student-led activities include peer-facilitated small groups which incorporate elements of the Red Cross 'Save-a-mate' Program. Over 350 peer facilitators are trained to demonstrate to their classmates how to physically help a friend in an emergency. A crash scenario involving students, police, ambulance, emergency services and the local Crown Prosecutor, is one of the highlights of the Seminars.</p> <p>Includes key note presenters from Drug and Alcohol Research & Training Australia and NSW Roads and Maritime.</p> <p>http://risk.com.au/</p>	<p>Now involves 58 schools across northern NSW from Tweed Heads to Port Macquarie.</p> <p>Resilience building program that is relevant to the social life, developmental stage and concerns of adolescents. Extends the school-based drug education and road safety curriculum by providing opportunities for senior high school students to develop knowledge, attitudes and skills to reduce risk taking and develop safer celebrating strategies</p> <p>A number of evaluations have been conducted including one by researchers at The George Institute for International Health, University of</p> <p>Sydney and bHealth Promotion, North Coast Area Health Service, Lismore (see literature review).</p> <p>Has been a finalist in the National Drug and Alcohol Awards and winner of the North Coast Area Health Service Excellence Award and Excellence in Road Safety Award.</p>
Transmission Program	VIC (RACV)	Pre-learners and Learners	<p>RACV offers this opportunity for Year 9 -12 Victorian secondary school students to be creative contributors in a road safety initiative.</p> <p>Students learn about road safety and use their imaginations to create a Community Service Announcement for television. The most outstanding design is professionally produced and screened on television.</p> <p>Through the Transmission television program, students:</p> <ul style="list-style-type: none"> - Select a road safety topic and investigate its impact - Analyse data and gather evidence to support the development 	<p>The Transmission television program runs in Semester One of each school year and is available free of charge.</p> <p>Schools that register receive a Teacher Resource Kit including a program DVD, student resources, criteria and timeline.</p>

			<p>and presentation of the road safety message</p> <ul style="list-style-type: none"> - Communicate safe and responsible road use and attitudes to the target audience - Present their concept using a script and storyboard. <p>https://www.racv.com.au/wps/wcm/connect/racv/Internet/Primary/road+safety/school+programs/secondary+school+road+safety/transmission</p>	
First@Scene	NT	Learners (focus on participants aged 16-18).	<p>St John Ambulance NT aims to ensure that future applicants for driving licences in the NT know how to behave in the event of an accident, and the measures that they can take to assist road accident victims; including emergency action such as evacuation of passengers and basic knowledge of first aid.</p> <p>Course material is presented online, in an interactive manner, where the student learns from both text and pictorial demonstrations of technique and approaches to first aid skills, in addition to providing opportunities to revise principles learnt throughout the course. Online presentation and all content is designed to relate directly with participants aged between 16-18 years of age. Following the presentation of course content, the student is then prompted to answer a series of revision questions, testing their comprehension of first aid training taught.</p> <p>The training course and testing takes the student approximately 30 minutes to complete. Upon successful completion of the training course, the student is sent a certificate of completion by St John Ambulance NT.</p> <p>http://www.firstatscene.com.au/</p>	<p>First@Scene is an online first aid course where Territorians can access quality first aid awareness training and practical advice about attending to the scene of an accident.</p> <p>St John Ambulance aim to promote and deliver the First@Scene training course, focusing on participants between the ages of 16 and 18 years of age, in both urban and remote regions of the Territory.</p> <p>Through the secondary education system of the Northern Territory, they aim to train approximately 2000 Year 10 students each year, Territory wide.</p>
Docu-Drama	QLD	Learners	Sponsored by the RACQ, the Docu-Drama Program brings driver awareness to high school students across Queensland, through an interactive event highlighting the consequences of	The program is presented at 26 Brisbane and regional high schools every year.

			<p>dangerous driving.</p> <p>Involves productions of realistic recreations of crash scenes with commentary typically by emergency service staff (e.g. Qld Ambulance, Qld fire service, Qld police).</p> <p>http://www.racq.com.au/about_us/news_and_community/news_and_media/stories/racq_re-enacts_fatal_car_crash</p>	
Skills for Preventing Injury in Youth (SPIY)	QLD	Pre-learner: 13-14 year old adolescents	<p>The overall goal of the SPIY program is to reduce injuries among young people (Year 9 level) that are due to risk taking behaviours such as:</p> <ul style="list-style-type: none"> - Underage drinking and other substances - Underage/unlawful driving - Riding as passengers of drink drivers - Interpersonal violence - Risky motorcycle and bicycle use - Risky behaviour around water <p>It incorporates two primary elements: an 8-week, teacher delivered attitude and behaviour change curriculum with peer protection and first aid messages; and professional development for program teachers focusing on strategies to increase students' connectedness to school.</p> <p>It also teaches first aid skills and key messages about looking after/ protecting friends.</p> <p>http://www.carrsq.qut.edu.au/research/SCIP/200501.jsp</p>	<p>Evaluation undertaken in the wider Brisbane area and the ACT (see literature review). A randomised cluster control trial was then funded to commence in QLD in 2012. This evaluation has now been completed and researchers are in the process of analysing data.</p> <p>All participating schools have received the necessary resources and training to deliver the program as they wish.</p> <p>Overall, the SPIY program has shown promising results in regards to prevention of students' health risk behaviour and injuries. It targets change in a number of risk-taking behaviours, primarily passenger and bicycle as road safety component (also off-road motorcycle, interpersonal violence, safe behaviour around water) (see literature review).</p>
Drive Safe NT	NT (available in Darwin, Alice Springs and	Pre-learner and learner	A driver education, training and licensing program for Territory drivers aged 16-25 years.	If learners already hold a learner licence, in order to take advantage of all the benefits of the program, they are still required to commit to at least 5 months in the program

	Katherine and will be available in Tennant Creek in the future)		<p>Provides an opportunity to gain essential knowledge of road rules, safe driving practices and attitudes, and to access professional driver training.</p> <p>All elements of the program can be completed over 6 months. Program cost includes:</p> <ul style="list-style-type: none"> ▪ all course materials – DriveSafe NT Participant Pack ▪ minimum of nine hours classroom based theory driver and road safety education – Drive 1 and 2 theory classes ▪ learner (Ls) and provisional (Ps) license and testing fees ▪ keys2drive lesson for the learner and supervising driver ▪ 10 subsidised driving lesson e-vouchers valued at \$40 each to help with the cost of professional driving lessons ▪ one pre-Vehicle on Road Test assessment ▪ First@Scene - St John Ambulance NT online first aid course ▪ incentives to support supervised driving practice ▪ access to online tools to track and manage your driver education. <p>http://www.transport.nt.gov.au/mvr/driver-training-and-licensing/drivesafe-nt</p>	<p>before attempting to qualify for a P licence.</p> <p>Requires a one-off upfront fee of \$110.</p>
The Road Awareness and Accident Prevention Program	SA and QLD (with plans to roll out in other states)	Learners and Ps	<p>Emergency Service personnel attend schools and discuss what happens in road crashes with students. Involves videos and discussions about actual road crash scenarios as well as example crash scene extrication. In some cases a young person who has been injured in a car crash will also attend and provide their personal perspective.</p> <p>Fire fighters present the 90 minute Program, taking students on a journey to discover the risks drivers choose and the consequences they have no control over. The message is: <i>'Through Concentration and Commonsense, almost all road crashes are avoidable.'</i></p>	<p>Run by the South Australian Metropolitan Fire Service and the Queensland Fire and Rescue Service.</p> <p>Community-based initiative, free of charge.</p> <p>RAP targets licence-aged drivers and road users at secondary schools across South Australia.</p> <p>A student resource package is provided to the students at the end of the program which incorporates an evaluation form, a Parent-Young Person Safe Driving Agreement and a Peer Group Road Safety Agreement to take home and discuss with their families.</p>

			http://www.mfs.sa.gov.au/site/community_safety/road_awareness_program_rap.jsp	
Roads 2 Survival	National wide (initially developed and trialled in Adelaide)	Learners	<p>Developed by young people, parents and other concerned community members to help families address the issues that relate to young driver crashes.</p> <p>Initial cornerstone of the program was the Parent-Young Person Safe Driving Agreement – a tool to help families to discuss road safety.</p> <p>Four other Agreements have been developed: the Peer Group Young Person Safe Driving Agreement, the School/Parent/Child Road Safety Agreement, the “Road Rangers” School/Parent/Child Road Safety Agreement and the New Baby-Family Road Safety Agreement.</p> <p>http://www.roads2survival.com.au/raap.htm</p>	<p>Community-based initiative. Now being used in over 50 schools across Australia (and overseas).</p> <p>No charge to download or use the agreements.</p> <p>Privately funded.</p> <p>Electronic material available to any schools or relevant organisations.</p>
RSE Rotary Youth Driver Awareness (RYDA) Program	Australia wide (except NT) and New Zealand	Ps (Years 11 and 12)	<p>High school based program whereby students take part in six interactive sessions on a broad range of road safety topics. RYDA is conducted at an out of school venue, chosen to highlight the road safety messages and is targeted at 16-18 year olds as they begin to drive or ride in cars driven by their peers.</p> <p>Under the theme ‘My Life: My Choices’, the empowering messages are designed to give the young participants cause to stop, reflect and consider their decisions as a passenger or a driver.</p> <p>As part of an interactive one-day experience, students experience high-speed braking, devise travel strategies that will work for them in the real world and get tips from road safety experts on how to protect themselves, their friends and family. In one session, students watch a powerful and emotional video on the life and tragic death of an 18 year old provisional driver and her best friend. And in another, they sit with a crash survivor and hear first-hand how one poor choice can change a</p>	<p>Run by Road Safety Education Limited (RSE), a not for profit organisation to provide road safety education to young people before they commence driving.</p> <p>In conjunction with research, RSE also consults with road safety authorities, state departments of education and police so that the Program can complement and supplement the school curriculum and government road safety messages.</p> <p>The Program is delivered to over 50,000 students annually.</p> <p>The RSE Australasian Advisory Council provides advice and research on road safety education to support the development and continuing improvement and efficacy of RSE programs in reducing youth road trauma (Prof Barry Watson, A/Prof Teresa Senserrick and Dr Dorothy Begg).</p> <p>Was evaluated in 2005 by the Motor Accidents Authority of NSW. An ongoing process evaluation (survey) has also</p>

			<p>life forever.</p> <p>http://www.rse.org.au/RYDA.aspx</p>	<p>been established to ensure objectives are met (see literature review).</p> <p>All RSE Program (see Safe Start and Good 2 go, below) adopt an ‘active learning’ approach. They are run by trained facilitators with experience in road safety education. The program is also well supported by Police and Crash Survivor organisations.</p>
RSE Safe Start	Australia wide (except NT) and New Zealand	Ps (Year 12)	<p>Another RSE Program. SafeStart is currently being designed as an innovative in-school program that provides students with a greater opportunity to understand risk and its broader implications. Whilst the focus will be on safe travel there will be broader application for other risk behaviours.</p> <p>http://www.rse.org.au/SafeStart.aspx</p>	<p>SafeStart is a school based program to help students explore notions of risk and risky behaviour. It incorporates teacher and student resources and is available soon.</p>
RSE Good 2 go	Australia wide (except NT) and New Zealand	Ps (Year 12)	<p>The Good2Go Program will develop skills in Year 12 students to promote and advocate safe road behaviour amongst their peers and their local communities using social media and promotional opportunities. This will see youth road safety message being promulgated by young people to young people through a medium and a way that that engages with young people.</p> <p>This program will be open to high schools who have attended a RYDA Program as part of the continuum of learning.</p> <p>http://www.rse.org.au/Good2Go.aspx</p>	<p>Good2Go is a school based program to promote road safe local communities. It incorporates teacher and student resources and is available soon.</p>
BRAKE Driver Awareness Program	QLD	Learners and Ps	<p>Delivered by teachers within schools who are accredited BRAKE trainers.</p> <p>There are 5 aspects to the program, each represented by a letter of the program name:</p> <p><i>Behaviour</i> – program intends to modify the behaviour of young drivers;</p>	<p>Founded in 2006 to teach teenagers about driver education and road safety. To date has reached 15000 teenagers at 50 schools.</p> <p>Bulk of the program is participant directed, with some background information provided as necessary.</p> <p>School-based program consists of 8 modules based on a power point presentation with video clips and animations.</p>

			<p><i>Risk</i> – focus upon hazard perception and identification of risk;</p> <p><i>Attitude</i> – helps young adults approach driving with the caution needed and have an understanding of responsibility and accountability;</p> <p><i>Knowledge</i> – appreciation and recognition of the risk associated with a particular hazard, at a fundamental brain chemistry level;</p> <p><i>Education</i> – the fundamental approach of the program is that young drivers can be educated to be better drivers.</p> <p>http://www.brake.org.au/</p>	
Leighton Contractors Youth Drive Safe Initiative	QLD and NT	Learners	<p>School based road safety education and training program.</p> <p>Initiative offers packages of 5 hours of free professional driving instruction to students at selected secondary schools in QLD and NT.</p> <p>Through the 5 Lesson Plan students gain: confidence to make the right driving decisions, knowledge and skills to be a safe driver and take control of actions on the road, understand what risky behaviour is, knowledge about driving in a more environmentally friendly way, experience in a mix of real-life traffic conditions.</p> <p>https://www.leightoncontractors.com.au/our-priorities/communities/community-investment/</p>	<p>In the NT, 60 packages are being offered to students attending participating schools in Darwin and Palmerston.</p> <p>In QLD, 120 packages are being offered to students attending participating schools in Blackwater, Collinsville, Gladstone and Townsville.</p> <p>Commenced in 2008 with over 15000 students having attended the initiative.</p>
P Drivers Project	Currently underway national project involving VIC and NSW partners	Ps	<p>A large scale road safety research project to develop and implement a behaviour change program for young P plate drivers aged between 17 to 22 years.</p> <p>This project is one of the largest and most complex scientific research studies undertaken in the area of driver education in the world.</p> <p>The research will focus on current behaviour, decision making</p>	<p>The Victoria and New South Wales project has been developed using face-to-face direct dialogue and an on-road coaching session with young P drivers to influence their behaviour while driving.</p> <p>The P Drivers Project is represented by:</p> <ul style="list-style-type: none"> • Victorian Government (VicRoads and Transport

			<p>and risk-taking that will help reduce the number of crashes and fatalities involving young, inexperienced drivers and promote their safe driving behaviour. The aims are to:</p> <ul style="list-style-type: none"> • Reduce the number and severity of road crashes involving young novice drivers. • Improve safe driving behaviour of young novice drivers. • Increase awareness of the risk factors that contribute to high crash rates for young drivers. • The program will use an adult education approach intended to change on-road behaviour of young novice drivers in such a way as to reduce their crash risk <p>http://pdriersproject.com.au/</p>	<p>Accident Commission (TAC))</p> <ul style="list-style-type: none"> • Australian Government (Department of Infrastructure and Transport) • New South Wales Government (Transport for NSW) • Federal Chamber of Automotive Industries (FCAI) • Royal Automobile Club Victoria (RACV) • NRMA Insurance. <p>See literature review for more detail.</p>
Prevent Alcohol and Risk-related Trauma in Youth program (PARTY)	VIC, WA, QLD	Learners and Ps (students in Years 10 and 12).	<p>The PARTY Program educates teenagers about avoiding situations that can result in an injury. They witness firsthand the appalling impacts of trauma in the participating hospitals.</p> <p>PARTY participants spend time with staff in the Emergency/Trauma Centre, the Intensive Care Unit, Trauma Wards, and Rehab units of the hospital getting an up front, true to life experience of the impact of trauma on young lives.</p> <p>http://www.partymelbourne.net.au/</p>	<p>The program is now operated by staff at established trauma hospitals at over 100 sites around the world. In Australia these hospitals are: The Royal Perth Hospital (WA), Royal Brisbane and Women's Hospital (QLD), The Alfred (VIC) and The Royal Melbourne Hospital (VIC).</p> <p>PARTY was developed in 1986 at the Sunnybrook Health Services Centre in Toronto, Canada as a result of Emergency room staff seeing a large number of trauma cases occurring among young people, and requests by young people to see the impact of Trauma.</p> <p>Evaluated by Royal Perth Hospital (see literature review).</p>
L2P	VIC	Learners under 21 years	<p>For people who do not have access to a supervisor or vehicle.</p> <p>Learners are matched with fully licensed volunteer mentors to gain supervised experience to apply for a P licence. Doesn't substitute for professional driving lessons.</p>	<p>Learner driver mentor program.</p> <p>Free for those eligible.</p> <p>Funded by TAC and run through VicRoads.</p>

			http://www.vicroads.vic.gov.au/Home/Licences/GetYourPs/PreparingForYourLicenceTest/L2P.htm	
yDrive	NSW	Learners under 23 years	<p>Aims to provide support to learner drivers under 23 years of age who don't have access to a supervising driver or vehicle to gain the required driving experience.</p> <p>Learners are given access to driving lessons with a fully licensed driver.</p> <p>Coordinated by the Youth connections.com Youth Reference Group and funded by NSW Government Youth Opportunities and NSW Transport.</p> <p>http://www.youthconnections.com.au/ydrive</p>	<p>Learner driver mentor program.</p> <p>As part of the program specialist youth and employment workers have the opportunity to work with participants and mentors to build financial literacy, work on their self-esteem, resilience and self-efficacy, career planning and general employability skills.</p>
Road-2-Safety	Morwell, VIC	Learners	<p>The objectives of the Road-2-Safety Project are to:</p> <ul style="list-style-type: none"> • Promote positive road-user attitudes and behaviours; • Provide information on road rules and safe driving practices; • Encourage young people to make informed and responsible driving-related choices; • Prepare pre-learner drivers for the acquisition of a Learners Permit; • Provide 120 hours of on-road supervised driving. <p>10-week program delivered through a combination of group-based learning approaches, including role-playing, web-based programs and manuals. Topics covered include general background information on learning how to drive, managing risk and rules and responsibilities.</p> <p>At the conclusion of the 10-week program, participants are booked in to be tested for their Learners Permit. Once the young person has acquired their Learners Permit, they receive</p>	<p>Learner driver mentor program.</p> <p>Supported by RACV and Subaru Melbourne.</p> <p>Was piloted in Morwell in 2006 and offered nine disadvantaged young people aged 16.8 – 18 years an opportunity to learn about road safety and obtain their Learner and/or Probationary Drivers Licence. Results from an evaluation of the pilot program were very positive (see literature review).</p> <p>Close linkages with other road safety initiatives developed by RACV, VicRoads, and the TAC.</p> <p>Over these 10 weeks, participants also study for, and sit, their Level One First Aid certificate.</p>

			<p>eight driving lessons from a professional driving instructor as well as 120 hours of supervised on-road driving practice with a volunteer mentor. The supervised driving practice takes place in a range of different settings and times, including night driving. Once the 120 hours of supervised driving practice have been completed, participants may choose to book in to be tested for their P Licence.</p> <p>http://www.berrystreet.org.au/Assets/571/1/Road2Safety_Evaluation_Report.pdf</p>	
Northern Mentoring Support Program	Reservoir, VIC	Learners – no age limit	<p>The Northern Mentoring Support Program is a joint initiative between The Salvation Army Preston & Plenty Valley Corps and Crossroads Youth and Family Services to help refugees and migrants through mentoring in a range of issues, including driver training.</p> <p>http://www.imvc.com.au/broaden-your-horizons/mentoring-programs/</p>	<p>Learner driver mentor program.</p> <p>Volunteer mentors works with a refugee or migrant one to one.</p>
Braking the Cycle	QLD	Learners	<p>Aims to provide young people with increased employment opportunities, community connection and driver education meaning safer roads and safer communities. Developed by Logan and Ipswich PCYC.</p> <p>http://www.ipswichpcyc.org.au/youth-program/braking-the-cycle</p>	<p>Learner driver mentor program.</p> <p>Volunteer mentor program designed to support learner drivers who don't have access to a supervisor or registered vehicle to complete their log book hours.</p>
Partnership Broker Program Drive to Thrive	Glenala High School, QLD	Learners	<p>Purpose: To assist disadvantaged young people overcome barriers they face in gaining their driver's licence, which in turn will increase their engagement in learning and employment prospects.</p> <p>Students receive 10 hours of professional driving lessons and 1 day of defensive driver training.</p> <p>All Year 11 students participate in road safety education training through the RYDA Program (described elsewhere in</p>	<p>Learner driver mentor program.</p> <p>Partnership Members:</p> <ul style="list-style-type: none"> - Glenala State High School - Queensland Police - Suncorp Insurance

			<p>table).</p> <p>http://www.thesmithfamily.com.au/~media/Files/Partnership%20brokers/Brisbane%20North/drive-to-thrive-partnership.ashx</p>	<p>- Rotary Youth Driver Awareness (RYDA) Program</p> <p>- Local driving school</p> <p>Benefits include improved motivation to engage in learning, attend school and seek employment.</p>
Driving to Engage	North Queensland	Learners	<p>The Driving to Engage Program includes 5 days of Life Skills Training which includes: Goal Setting, Discovering Work Motivation, Self Motivation, Money Management, Time Management, Building Self Esteem, Managing Life Skills and Healthy Living.</p> <p>The program provides professional driving lessons and volunteer mentor driver support.</p> <p>http://juwarki.org.au/wp-content/uploads/2012/10/Driving-to-Engage-Brochure1.pdf</p>	<p>Learner driver mentor program.</p> <p>On successful completion of the training participants are can apply for their Learners and marketed to local employers.</p>
Keeping Aboriginal Youth Safe (KAYS)	Blacktown, NSW	Learners	<p>KAYS (Keeping Aboriginal Youth Safe), helps Aboriginal youth to get their driver's licences and aims to assist them with overcoming the barriers to education and employment as well as looking to reduce youth incarceration rates.</p> <p>http://www.healthinonet.ecu.edu.au/key-resources/programs-projects?pid=1147</p>	<p>Learner driver mentor program.</p> <p>Aimed at keeping young Indigenous people safe and preventing risk-taking behaviour which can often lead to injuries or contact with the criminal justice system.</p> <p>Run by the Blacktown Aboriginal Safety Promotion Program</p>
Drivin' for Employment (D4E)	Sydney, SNW	Learners and Ps (aged between 16-24 years).	<p>Drivin' 4 Employment is a program to help young people get their learner licence and then their provisional licence.</p> <p>The first stage of the project teaches participants about driver safety, how to budget to save for your first car, and there's also a job seeker session to prepare participants for getting a job.</p> <p>In the second stage, qualified instructors, volunteers and mentors will take participants for driving lessons in the Drivin' 4 Employment vehicle.</p>	<p>Learner driver mentor program.</p> <p>To take part in Drivin' 4 Employment participants need to get a referral first – from Centrelink, a local youth organisation, or a job network agency.</p> <p>Participants need to be unemployed and aged between 16 to 24 years.</p> <p>Volunteers work with the Salvation Army's Oasis Youth Support Network to deliver this project, which aims to</p>

			http://www.cityofsydney.nsw.gov.au/community/community-services/young-people/youth-projects/drivin-4-employment	reduce the high unemployment levels of young people in the inner city (described elsewhere in this table).
Hastings Learner Driver Mentor Program	Port Macquarie, NSW	Learners	<p>The Hastings Macleay Learner Driver Mentor Program is the result of a partnership between various community organisations.</p> <p>Assists young people from disadvantaged backgrounds complete 120 hours of supervised practice so that they can obtain their licence - to aid employment and participate in the local community.</p> <p>http://transitions.youth.gov.au/sites/Transitions/SuccessStories/PartnershipBrokers/Documents/PBSS_LDMP_Hastings.pdf</p>	<p>Learner driver mentor program.</p> <p>Dedicated HMCT drivers have undertaken the RTA Driver Mentor Training to ensure participants are receiving mentoring from trained staff.</p>
New Horizons Learner Mentor Program	Central Coast, NSW	Learners	<p>New Horizons Learner Driver Mentoring program provides support to young adults to learn to drive in a responsible, safe and lawful manner.</p> <p>The program targets learner drivers between the ages of 18 and 24 years of age who have their Learners Permit but do not have access to a supervising driver or a vehicle due to financial or family circumstances in order to achieve the required 120 hours of driving experience.</p> <p>The program provides:</p> <ul style="list-style-type: none"> •A motor vehicle and all associated costs; •Ongoing coordination and support for volunteers, learners and resources; •Training and supervision as required; •All necessary insurances to cover the mentor and learner; •An office facility and equipment with safe storage. <p>https://govolunteer.com.au/Opportunity/Details/23325/learner-driver-mentoring</p>	<p>Volunteers must be 25 years and over and have a full (non-Probationary) current NSW drivers licence with a good driving history (less than 6 current demerit points).</p> <p>The program, an initiative of and funded by New Horizons, it is a community based program designed to help disadvantaged learner drivers get their 120 hours of supervised driving experience.</p>
Ready Set Go	Rokeby/Clarenc	Learners	Since 2007, Ready Set Go has been providing support for people learning to drive. The program provides a Manual or	Learner driver mentor program.

	e, TAS		<p>Automatic vehicle as well as a volunteer Mentor to assist people who don't have access to these essentials for getting a licence.</p> <p>The management of the Ready Set Go program is shared with a group of community members and organisations.</p> <p>The program is auspiced by Clarendon Vale Neighbourhood Centre and a Coordinator is employed to manage the everyday operation of the program. Ready Set Go is a member of Driver Mentoring Tasmania (peak body).</p> <p>http://www.readysetgo-clarence.org/</p>	<p>Eligibility for being a participant in the Ready Set Go Program will be decided according to the following criteria:</p> <ol style="list-style-type: none"> 1. Participants must be able to gain a significant life benefit to be involved in the program; 2. Participants who are disadvantaged; 3. Participants who have completed the following pre-entry requirements: <p>Hold a current learners licence and have completed a minimum of two professional driving lessons.</p> <p>In exceptional circumstances this requirement may be waived after a suitably qualified person deems the participant to have a sufficient level of skill to commence the program.</p>
Gearing up	Huon Valley, TAS	Learners	<p>Gearing Up is a learner mentor driver program that is administered by the Council's Youth Services Unit. It supports people who don't have access to a supervisor or vehicle.</p> <p>In late 2008, the Gearing Up! program won a high commendation in the Group Innovation section of the Tasmanian Crime Prevention and Community Safety Awards.</p> <p>http://www.huonvalley.tas.gov.au/page.aspx?u=701</p>	<p>Learner driver mentor program.</p> <p>Gearing Up! has been operating in the Huon Valley since late 2006. During this time the program has expanded to operate out of two locations and is now managed by the Huon Valley Council.</p> <p>To date the program has supported 25 people to attain the practical on-road driving experience and 14 of these have gone on to gain a provisional driving licence.</p>
Youth Futures: Wheels4Work	Launceston, TAS	Learners	<p>Wheels 4 Work provides a vehicle with trained mentors to assist learner driver's gain their provisional licence.</p> <p>http://www.youthfutures.org.au/about</p>	<p>Learner driver mentor program.</p> <p>W4W is an independent organisation, auspiced by Youth Futures.</p>
Drive For Life Learner Driver Mentor Program	NSW	Learners	<p>Oasis Foundation (through the Salvation Army) in partnership with ŠKODA and Carsguide.com.au</p> <p>Drive for Life offers disadvantaged young people the</p>	<p>Learner driver mentor program.</p> <p>Extension of Oasis' Driving for Employment program - helping to close the gap of disadvantage for many young</p>

			<p>opportunity to achieve the mandatory 120 hours necessary to obtain Red P's in a safe and positive environment. http://salvos.org.au/penrith/nepean-salvos-finding-freedom/drive-for-life/</p>	<p>people by offering a wider range of education, training and vocational opportunities that will come through securing a driver's licence.</p> <p>The Oasis Youth Support Network, Sydney is The Salvation Army's response to youth homelessness in Australia.</p>
Road Education Volunteers (REV)	Kentish & Latrobe, TAS	Learners	<p>The REV program provides both a vehicle and a supervising driver to assist eligible learners build up the required number of driving hours.</p> <p>Along with this practical component, participants in the program are educated on the risks associated with drink driving and speed, and are introduced to the concept of hazard perception. http://www.roadeducationvolunteers.com.au/</p>	<p>Learner driver mentor program.</p> <p>Participants are eligible if they have a valid learners licence; limited, or no family support; are unable to access a suitable vehicle; or are referred, or recommended by a support agency.</p>
A2Ps	Burnie, TAS	Learners	<p>The A2Ps program has been developed to assist young people aged 16 to 30 with no access to a supervisory driver obtain their 50+ hours of driving time.</p> <p>Volunteers provide a vehicle and match up eligible young people with mentor drivers who provide supervised on road driving sessions. http://drivermentoringtasmania.org/north-west-ldmps.php</p>	
Top Gear	Hobart & Brighton, TAS	Learners	<p>The Top Gear Mentor Driving Program helps new arrivals to Australia, from Sierra Leone, Ethiopian, Sudanese, Burundian, Afghan and Congolese communities, obtain a provisional drivers licence. The program gives participants' access to a car and supervisory driver, at no cost. Participants have the opportunity to complete the practical on road experience necessary for a provisional licence and may be eligible for more help.</p> <p>By increasing the numbers of people with provisional licences, the program aims to reduce the incidence of unsupervised and unlicensed driving and also the risk to other road users. It also</p>	<p>The Migrant Resource Centre (Southern Tasmania) Inc (MRC) established a community road safety partnership with the Tasmanian Department of Infrastructure, Energy and Resources (DIER) in 2005. This involved sharing resources to address local road safety issues through the development of initiatives. The partnership has proved to be very successful.</p> <p>Stakeholder consultations were held to establish the areas of road safety where support was required. Feedback suggested that some people from newly arrived communities needed support to get their provisional</p>

			<p>aims to reduce social isolation, reliance on infrequent public transport and friends for transport and increase opportunities for employment and access to community services.</p> <p>http://drivermentoringtasmania.org/southern-ldmps.php</p>	<p>licence, once they had their learners licence.</p>
Greenlight	Glenorchy, TAS	Learners and Ps	<p>The two-day Greenlight program includes theory and practical drive sessions with a qualified DECA driving instructor in various locations around the community. Both sessions cover a range of topics, including: road laws, vehicle safety checks, tyres and tyre pressures, braking and stopping distances, system of safe vehicle control, defensive driving techniques, observation and planning, effects of drugs and alcohol, fatigue management, new vehicle technology, vehicle limitations, vehicle inspection and maintenance, braking and cornering in wet conditions, correct steering, braking and gear selection, defensive driving techniques on a variety of road conditions, observation an planning, driving on varied road conditions and what to do in emergency situations.</p> <p>Upon completion, participants will be issued with a certificate of attendance and observed drive sheet.</p> <p>http://drivermentoringtasmania.org/southern-ldmps.php</p>	<p>Targeted at learner and probationary licence holders, Greenlight aims to help inexperienced drivers improve their skills by providing them with access to free defensive driver training.</p> <p>Greenlight has a strong focus on understanding vehicle dynamics and control, defensive driving techniques and reducing risk-taking behaviours, such as speed, fatigue and driving under the influence of drugs and alcohol.</p> <p>In addition, time spent completing the course will count towards learner's permit holders mandatory log book hours.</p> <p>Greenlight is provided to young people who hold a learner and probationary licence free of charge.</p>
Jump Start	Geevestone, TAS	Learners	<p>Jumpstart, like other Learner Driver Mentor Programs, will assist participants to gain the mandatory practical driving hours required for their provisional licence.</p> <p>http://drivermentoringtasmania.org/southern-ldmps.php</p>	<p>Learner driver mentor program.</p>

Appendix B: The GADGET assessment frame used in the review

The GADGET matrix was the result of a Swedish Road Administration-funded systematic attempt to outline the essential components of effective driver education (Peraaho et al., 2003). It relies on theoretical underpinnings from cognitive psychology and adopts the perspective that skills-based approaches to training are insufficient to develop safe drivers as they do not address what a driver is willing (rather than able) to do in the driving situation. These voluntary decisions are more influenced by a driver's motivations and attitudes and are critical to a driver's actual behaviours on-road.

GADGET outlines four hierarchical levels of behaviour, and three categories of essential curriculum within each, that comprise the ideal driver education and training approach (Peraaho et al., 2003). These are as follows (drawn from Peraaho et al., 2003):

Level 4: Goals for life and skills for living-independent of the traffic domain. Includes the importance of cars and driving for personal development and well-being; skills for self-control, social skills, habits beliefs etc; physical and mental capabilities and preconditions (eg. attitudes and beliefs about alcohol; personal alcohol use; gender, age, background, cultural background). These all set the scene for the choices that a driver makes or is able to make. This aspect of can be conceptualized as governing the highly important 'will do' aspects of driving behaviour, that is, the voluntary aspect.

Level 3: Goals and context of driving-traffic domain specific function- This level covers the purpose of driving, driving environment, social context and company. These are the 'Why, where, how and with whom' aspects of driving decisions. It is conceptualized as the decision level of driving.

Level 2: Mastering traffic situations-situation specific function- This level is seen as adapting the level 1 functions (below) to the demands of specific driving situations. It includes knowledge of how to drive in particular circumstances, ability to anticipate and adjust to driving circumstances or conditions and includes hazard perception.

Level 1: Vehicle manoeuvring-executive function- This is the lowest level and is more mechanical, including such areas as knowledge of car control, speed, direction and position; practical skills of driving.

Within the GADGET approach, higher levels are conceptualized as controlling and guiding behaviour on the lower levels, using feedback from these levels about the results of behaviours. An underlying assumption is that the distinction between an expert driver and a technically competent amateur is the ability to reflect on one's own behaviour, draw appropriate conclusions and thereby learn from experiences.

The developers of the GADGET matrix stress a view of learning as constructivist in nature, and therefore argue for driver education that presents experiences to the student and then allows for processing of these in the context of what is needed for driving. Increased ability to self-evaluate is critical, and the suggested approach is through use of methods that include accurate, detailed and timely feedback, and the use of tools like questionnaires, discussions with others about personal experiences, and evaluation by instructors or by salient others. For driving education to be effective, it should address the issue of what driving means and what it means to be a (safe) driver.

The three categories of curriculum are Knowledge, Risk and Awareness. Each level of behaviour incorporates the three areas of curriculum so that the matrix looks as follows:

Hierarchical level of behaviour (extent of generalisation):	Central content of driver education:		
	K	R	SE
<p>Goals for life and skills for living (global) (preconditions for driving-personal values, lifestyle, person-related, background related-influencing choice)</p> <p>Pre-licence applicability Post-licence applicability</p> <p>A</p>	<p>Knowledge about / control over how general life goals and values, behavioural style, group norms etc. affect driving.</p>	<p>Knowledge about / control over risks connected with life goals and values, behavioural style, social pressure, substance abuse etc.</p>	<p>Awareness of personal tendencies re. impulse control, motives, lifestyle, values, etc. Developing self-evaluation skills.</p>
<p>Goals and context of driving (specific trip) (why, how, when, with whom, in what driving state eg impairment; social context)</p> <p>Post-licence applicability</p> <p>B</p>	<p>Knowledge and skills re. trip-related considerations (effect of goals, environment choice, effects of social pressure, evaluation of necessity, etc.).</p>	<p>Knowledge and skills re. risks connected with trip goals, driving state, social pressure, purpose of driving, etc.).</p>	<p>Awareness of personal planning skills, typical driving goals, driving motives, etc. Developing self-evaluation skills.</p>
<p>Mastery of traffic situations (specific situation) competence in relation to driving in particular traffic situations</p> <p>Post-licence applicability</p> <p>C</p>	<p>General knowledge and skills re. rules, speed adjustment, safety margins, signalling, etc.</p>	<p>Knowledge and skills re. inappropriate speed, narrow safety margins, neglect of rules, difficult driving conditions, vulnerable road-users, etc.</p>	<p>Awareness of personal skills, driving style, hazard perception, etc. from the viewpoint of strengths and weaknesses. Developing self-evaluation skills.</p>
<p>Vehicle manoeuvring (specific task) vehicle and its properties; interaction between driver and car; skills for handling and control of vehicle</p> <p>Post-licence applicability</p> <p>D</p>	<p>Basic knowledge and skills re. car control, vehicle properties, friction, etc.</p>	<p>Knowledge and skills re. risks connected with car control, vehicle properties, friction, etc.</p>	<p>Awareness of personal strengths and weaknesses re. basic driving skills and car control (especially in hazardous situations), etc. Developing self-evaluation skills.</p>

Appendix C: Interview schedule: Facilitators and teachers *Road Ready* program

Begin by introducing yourself and the project and purpose. Stress that no right or wrong answers and that it is people's experiences and opinions that are being sought.

1. Tell me about your experiences with teaching the program(s).
2. What do you see as the strengths of the program?
3. Which parts of the program, in your opinion, work the best? Why?
4. Which parts of the program, in your opinion, need to be revised or updated? Why?
5. Which parts of the program do participants seem to enjoy the most or get the most from?
6. Which parts seem least enjoyable or of least benefit?
7. Which parts of the program are easy to deliver?
8. Which parts present challenges to delivery? What are these challenges? What suggestions do you have for how these might be overcome?
9. What other suggestions can you make for improvements to the program(s)?

Appendix D: Interview schedule: Students Schools *Road Ready* program

Begin by introducing yourself and the project and purpose.

Stress that no right or wrong answers and that it is people's experiences and opinions that are being sought.

1. What did you enjoy the most about the *Road Ready* program?
2. What did you enjoy the least about the program?
3. Which parts of the program did you find the most challenging?
4. How much did the program meet your expectations about **what** you would learn (content)?
5. How much did the program meet your expectations about **how** you would learn (process)?
6. Did you find the pace (how much was delivered when) of the program suited you? Why/why not?
7. Do you agree that the program should be compulsory? Why or why not?
8. What improvements would you suggest to the program?

Appendix E: Casualty crash involvement in Queensland by licence type

