

New Zealand Youth Traffic Offences and Traffic Offending Phase 3. Alternative Actions for Youth Traffic Offenders: A Review of the Literature and Interventions in New Zealand



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Researching Impaired Driving in New Zealand
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Executive Summary

This aim of this research paper is to explore the question:

'Are there more effective interventions than standard penalties at reducing re-offending and improving road safety outcomes?'

This research involves an International and New Zealand focussed literature review, including expert interviews, of initiatives/interventions used to address youth driving offending. The research also aims to provide agencies with useful, practical, evidence-based options on which to design pilot programmes as potentially more effective alternatives to current approaches. The project has a Government Reference Group. Because alternative interventions are used in conjunction with traditional sanctions (demerit points, fines) these traditional sanctions are also discussed. Information on the Graduated Driver Licence System (GDLS) and the Criminal Justice System in New Zealand, regarding youth traffic offenders is also included.

Methodology

Published journal sites and other online resources were searched. Organisations and identified authors of previous relevant literature reviews and associated research were personally contacted, and those involved in programmes/initiatives for youth traffic offenders in New Zealand. The project was also received input from international researchers online through ResearchGate, and personal contact.

Key Finding

Based on the available evaluation data reviewed these research findings propose that; **yes, there are more effective alternative interventions than stand-alone fines and demerit points for reducing re-offending and improving road safety outcomes.** Not only does the available evaluation information report reduced re-offending rates but the programmes reviewed in New Zealand also endeavour to:

- Promote Whānau and community engagement
- Enhance employment opportunities and social development
- Address behavioural and attitudinal issues
- Encourage safer driving practice
- Address underlying issues
- Promote social responsibility
- Empower young people to make positive decisions.

Other Key Findings

- The review identifies young drivers as having unique psychosocial and developmental differences to adults.
- The infringement fine response may be falling far short of the aims of deterrence theory for the majority of offenders and offences under consideration for this paper.
- In New Zealand there appears to be a concerted effort aimed towards diverting youth away from the formal criminal justice system.
- The use of escalating demerit point accrual to trigger young driver interventions would allow for a targeted response.
- Alcohol interlocks may have more than a purely incapacitating effect for young and high level first-time drink drivers; the effects appear to endure after interlock removal.
- Point of detection at the roadside could be utilised to gather information to inform on the reasons for a 'pooling' GDLS breach offence and barriers to traffic compliance aiming at GDLS progression.
- Cell phones, texting and email are the most common forms of communication for young people.
- There are reported economic benefits in acquiring a Full driving licence.
- The alternative initiatives available in New Zealand, and reported on in this review, extend far beyond the full or half day programmes traditionally used as driver improvement programmes.
- Further evaluations are needed regarding the New Zealand initiatives reviewed for this paper.

Recommendations for policy development and further research

- Review the penalties for youth traffic offenders regarding: GDLS breaches, drink driving and unlicensed driving. Review of the penalties for other areas of offending such as speeding or seatbelt offences and possibly the appropriateness of infringement fines for youth traffic offending.
- Research on GDLS breach offences, by repeat offence and duration of licence type held.
- Investigate methods to collect information for non-progression regarding GDLS breach offenders.
- Research on the construct of online interventions for GDLS breach offences.
- Research on designs for alternative interventions possibly triggered by demerit point accrual.
- Updating communication with young drivers via mobile phone and email information.

- Continued, increased use of Police traffic compliance with a focus on referral to licensing-type programmes such as the Ready for the Road, Behind The Wheel, the Community Driver Mentor and the Community Learner Driver Programmes.
- Research into the effect of young drivers failing their licencing tests.
- Cost-benefit review of fines retrieval for youth traffic offences.
- All programme evaluations need to be as rigorous as can possibly be achieved and subject to the ongoing scrutiny of evaluation.
- The Right Track programme needs to be revisited and compared to, as close as possible, a matched comparison group. Revisit the NZ programmes in 12 months to report on any new evaluation data or other relevant information.
- Further research on the use of driver training and fear appeals.
- Research on the efficacy of licence suspension/disqualification in NZ.
- Given the enormous international interest encountered during the construct of this paper and the limited ability of this paper to include the wealth of currently available information from the many and varied fields relevant to this research; it is proposed than an International Symposium on Youth Traffic Offending be hosted by the New Zealand Government, providing NZ the opportunity to lead the way in addressing youth traffic offending.

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Section Descriptions

Section 1: Provides an overview of the history of the Youth Traffic Offenders (YTO) Project and the rationale for this phase of the project. The methodology used in the research for this paper is explained as are the limitations of this research.

Section 2: Covers young drivers and the possible reasons for their risky driving behaviour. This section provides information on the New Zealand Police and Justice System. The use of the Graduated Driver Licence System (GDLS), Demerit Point Systems (DPS) and traffic infringement fines are also covered in this section.

Section 3: Provides information relating to theories and therapies applied in youth offending. A review of the literature on remedial driver intervention programmes, including information on relevant meta-analysis and systematic reviews, is detailed. Also included is information on international driver intervention programmes.

Section 4: Provides information on alternative interventions currently in use in New Zealand. These range from licensing programmes to behavioural change programmes.

Section 5: Provides information on the use of technology as an alternative/complementary intervention. This section includes information on the use of alcohol ignition interlocks and internet based interventions.

Section 6: Evaluation and the reported methodological limitations regarding effective evaluation are discussed in this section, as well as the use of screens and tools utilised in evaluation.

Section 7: Provides an overview of best practice in address youth traffic offending as concluded from the review.

Section 8: Provides a discussion on the overall information contained in the paper, as well as presenting recommendations for further research.

Section 1

Introduction

In August 2014 the Automobile Association Research Foundation (AARF) asked:

- 1. Is traffic offending a leading path into the criminal justice system for young New Zealanders?**
- 2. Are there more effective interventions than standard penalties at reducing re-offending and improving road safety outcomes?**

To answer these questions the AARF commissioned Researching Impaired Driving in New Zealand (RIDNZ) to undertake research to explore the ability or limitations in answering these questions. A Youth Traffic Offending (YTO) project team was established comprised of the researchers, the AARF and a Government stakeholder Reference Group.

The overall project aim was to:

'Identify interventions that are effective at reducing youth traffic re-offending: to reduce costs on the enforcement and criminal justice systems, and improve road safety, crime-related and other social outcomes (e.g. employment, education, health outcomes).'

The project has two previous phases that focussed on Question 1:

Phase 1: Data Gathering. A high level overview of youth traffic offending in New Zealand (Waters, 2015).

Phase 2: Detailed data on key issues. Driver licence offences and drink driving (Waters, 2016).

These phases concluded that traffic offending was a leading path into the criminal justice system for young New Zealanders. The first phase reported that:

'If the term 'path' is used as a first appearance at Court then the data contained in this paper would suggest that the answer is 'yes'; with 41 % of all proved first offending being traffic offences in 2009 and 46.4 % in 2013' (Waters, 2015, p. 50).

A key Phase 2 recommendation was:

'An International (and New Zealand) literature review and expert interviews of initiatives/interventions used to tackle youth driving offending should be undertaken so as to assist agencies develop responses to the data gathered here, and design interventions that may be more effective than current penalties'.

The aim of this review of the literature (Phase 3) is to answer Question 2 and to provide agencies with useful, practical, evidence-based options on which to design pilot programmes as potentially more effective alternatives to current approaches.

The literature review will report on the international use of relevant traffic offending programmes for 14-19 year old traffic offenders to include:

- Any evaluation information available

- Any meta-analysis available on these initiatives
- Structure of programmes and rationale

The literature review is limited to three key areas:

- Drink/drug driving
- Driver licence programmes (GDLS, Unlicensed driving)
- Other offending (e.g. Speed, careless/reckless driving and restraints)

As was the case with the two previous phases, Government stakeholder agencies and departments were invited to form a Reference Group for Phase 3 of the project. This Reference Group involved:

- The New Zealand Police and Police Youth Aid
- The Ministry of Justice
- The New Zealand Transport Agency
- The Ministry of Transport
- The Department of Corrections
- The Ministry of Social Development
- The Ministry of Health
- The Accident Compensation Corporation

The Reference Group provided information and input throughout the project. Two meetings, chaired by the AARF, were held between the project team and the Reference Group. The first outlined the methodology for the project and the second reviewed the information in the final draft of the research work.

Safer Journeys and Recent Legislative changes

New Zealand's road safety strategy to 2020, Safer Journeys (Ministry of Transport, 2010), has as one of its goals a reduction in the fatality rate of young people. In New Zealand Restricted and Learner licence holders make up a large proportion of young drivers involved in fatal crashes. The Ministry of Transport reports that 15–19 year olds account for 45% of these crashes (Ministry of Transport, 2014). There are several legislative changes that have been introduced to New Zealand in recent years that impact directly on the young drivers that are the focus of this research:

- From the 1 December 2014 a five-year time limit was placed on all new Learner or Restricted car or motorcycling driver licences. The purpose of the new time limit is to encourage moving on to the next stage of the GDLS
- In February 2012 the licence test for restricted drivers was made significantly longer and more difficult, requiring a higher level of driving ability than previously required. The strengthened restricted licence practical test is expected to lead to safer driving by restricted drivers (Ministry of Transport, 2012).
- In August 2011 the minimum Learner licence age was raised from 15 to 16 years of age.

- In August 2011 zero alcohol levels were introduced for young drivers (those under 20 years of age).

Young driver safety was included as a specific activity in the 2012-2015 Road Policing Programme aiming to ensure that more young people are adhering to their licence conditions (Graham, 2013).

Limitations

This report does not contain any information on initiatives that have not been evaluated or show no positive effect or have been discontinued (excepting those contained in previous meta-analysis or literature reviews).

The review includes only international evaluations on initiatives that involved empirical data (crash or offence) with a closely matched comparison group(s) observed long-lasting effects (longer than 6 months), and were specific to youth traffic offenders (14-19 years of age) or involved this age group as a significant proportion of the initiative. These caveats have been lifted for the reporting of some of the more recent developments, for example e-learning and technology (Section 5). Information has been included on current NZ initiatives that may or may not have been evaluated to ascertain what, if any, evaluation frameworks they have in place.

Before discussion on specific limitations to the project it is worth commenting on the age criteria involved in New Zealand when talking about 'young drivers' or 'youth offenders'. In New Zealand (NZ), at least in regards to alcohol laws and the Land Transport Act, young drivers are drivers under the age of 20. Young drivers are also defined as those aged 15-24 by the Ministry of Transport (Ministry of Transport, 2016). In NZ the minimum purchase age for alcohol is usually 18. At Court young people are defined as those aged 14-16. The minimum age at which one can acquire a driving licence is 16. When defining young drivers for our project, we took the age from the Land Transport Act for young drivers as our highest threshold and the lowest threshold for young people at Court therefore 14-19. In the literature reviewed, 'young', 'youth', 'juvenile' or 'adolescent' drivers were reported at varying age limits.

As the project is based specifically on youth traffic offenders this report does not include any information on initiatives that are based on general youth populations such as school, college or novice driver improvement or education programmes.

Whilst the terms of reference for this phase of the project were quite specific in that only alternative interventions that are 'more effective' than current penalties or sanctions were to be investigated, it became clear mid research that alternative interventions were typically used in conjunction with current sanctions or complemented other penalties.

For the most part in the original Terms of Reference 'alternative interventions' were identified as being 'programme based' or 'technology based'; something that was not fines, licence sanction/ disqualification or demerit point based. However, as also observed by af Wåhlberg (2011), the complementary use of both standard sanctions and alternatives does somewhat confound evaluations in regard to their effectiveness as 'stand-alone' initiatives. The initial title of the project used the phrase '*alternative interventions that are more effective than current sanctions*' but a better title would have

been *'can the current sanctions be made more effective with the combination of alternative interventions?'* So in addition to the literature review, after consultation with the attached Government Reference Group, information on initiatives/ sanctions that involve our cohort of young drivers such as Graduated Driver Licence Systems (GDLS), Demerit Point Systems (DPS) and traffic infringement fines has been included. Also included is relevant information that is focussed on youth offenders in relation to the criminal justice system in NZ. This includes information on Youth Court and its associated initiatives; for example **Police Youth Aid (PYA)**, **Police Diversion (PD)**, **Restorative Justice (RJ)** and **Family Group Conferences (FGCs)**.

The Terms of Reference were also quite precise in that the ages considered in regards to 'alternative interventions' were limited to those ages for whom we collected baseline data on in Phases One and Two of the project (14-19 year olds). This too needed addressing as specific interventions for 14-19 year olds did not appear anywhere in the literature; they were covered in either all age group interventions or interventions aimed mainly at young drivers.

To remedy this, information on initiatives that included all offender age groups, when they were found in meta-analysis or systematic literature reviews were included, but information on individual initiatives that are in the main aimed at adult offenders or where youth do not make up a significant proportion of the participants; for example drink driver rehabilitation programmes or the UK speed awareness or driver Improvement programmes, were not included.

A timeframe of four months from the start of the project to its completion was allocated for the project. For many involved in this type of research this may seem like a short timeframe but offsetting this is the enviable ease of access to information and data from the associated government agencies and departments involved in this project here in New Zealand, as well as the involvement of those same agencies by way of Reference Group for the entirety of this project. Adding to this efficiency was the involvement of many recognised experts in the relevant applicable fields whose help was invaluable in focussing the content of this review.

Finer detail on the many areas relevant to this project have been limited due to constraints such as the timeframe involved. For such information, that was not the main focus of this review, the relevant citations have been attached for further review. Taking the project constraint factors into account as much relevant information as possible has been provided for the consideration of those decision makers invested in improving road safety here in New Zealand and, where applicable, elsewhere in the world.

The New Zealand Police provided information on organisations that they referred offenders to, through the use of 'Traffic Compliance' (see Section 2). For the most part telephone or email contact or meetings were arranged with representatives of these organisations however some listed were unable to be contacted. Several of those contacted did not provide the requested information regarding their initiatives. Information was also provided but not included on the following two young driver intervention programmes:

- The young driver 'Navigator Programme', expected to be implemented in 2017, provided information but as this programme is currently unavailable this information has not been included.

- The Dunedin Community Driving Programme provided information after the cut-off date. This programme is very similar to the Community Driver Mentor Programme mentioned in Section 4.

Several other interventions were identified and the coordinators contacted to provide information but no information was forthcoming. The literature review also provided information on several other NZ young driver initiatives but this information was vague and no further content information could be sourced for these specific interventions.

The Ministry of Justice Case Management System (CMS) was unable to identify referrals of young drivers to individual and specific driver interventions in New Zealand. The CMS does not electronically record this information.

Methodology

As previously mentioned, a Reference Group was established and those stakeholders were informed by the researchers of the methodology being adopted and an overview of the planned content for this phase of the project. The Reference Group were asked to provide relevant information regarding their agencies and departments and youth traffic offending.

Published journal sites such as PubMed, Tandfonline, Science Direct, Cochrane library and many others were searched using keywords. Keywords included: young, youth, teen, novice, juvenile, drivers, offender, driver intervention programme, education, Court, evaluation, demerit points, traffic fines, GDLS. Searches were undertaken involving words, word combinations, and phrases.

Other online resources such as Google, Google Scholar, ResearchGate, Academia and many websites identified were searched. Also searched were university and road safety organisations websites and databases. Organisations, identified from these searches, were contacted and asked to provide any information they felt relevant to the project. These organisations included:

- European Transport Safety Council (ESTC)
- Institute for Road Safety Research (SWOV)
- UK Police
- National Highway Traffic Safety Administration (NHTSA)
- Center for Accident Research and Road Safety, Queensland University (CARRS-Q)
- International Council on Alcohol Drugs and Traffic Safety (ICADTS)
- Mothers Against Drink Driving (MADD)
- Traffic Injury Research Foundation (TIRF)
- Monash University Accident Research Centre (MUARC)

Identified authors of previous relevant literature reviews and associated research were contacted and asked to provide any information they felt relevant to the project, these included:

- Belinda Clark (Monash University)
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- Teresa Senserrick (University of New South Wales)

- Lisa Wundersitz (University of Adelaide)
- Ian Faulks (CARRS-Q)
- Dorothy Begg (University of Otago)
- Kelly Imberger (VicRoads)
- Mary Sheehan (CARRS-Q)

Also contacted were those involved in programmes/ initiatives regarding youth traffic offenders in NZ. Discussions were by way of email, telephone, individual meetings and skype. The project was also made available online through ResearchGate. The project's main question was posted on ResearchGate and the Terms of Reference made available. This elicited further research literature and the involvement of other researchers and experts in relevant fields. After screening the identifiable and available research for relevance to the project and further reviews of research from the most recent relevant bibliographies, there were 400 documents remaining for fine review.¹ No time limits have been imposed on the age of the research reviewed but the author has endeavoured to provide the most recent information as was possible.

For the sake of convenience the term 'driver intervention' and the spelling 'programme' is used when referring generally to any initiatives, unless they are a technological response. Considering the significant international interest encountered conducting this review it was deemed necessary to give some explanation of Māori words used throughout the review and these are provided as footnotes. Whilst no unique young driver intervention programmes for Māori youth were identified in the literature review, it has been reported that Māori culturally specific programmes for youth have shown positive benefits (Montgomery, 2014) and significant reductions in re-offending (Pointresearch, 2015).

As previously mentioned, the New Zealand specific alternative interventions were identified from Police data on organisations that were utilised/referred to by way of Police traffic compliance (see Section 2).

Telephone, email, skype and individual meetings with the initiative coordinators provided the bulk of the information for the identified NZ specific alternative initiatives². A cut-off point for further information that had not yet been received was imposed on the 3rd of October 2016, at the start of the construct of the final draft report.

The final draft report was reviewed by the Reference Group and international experts who were identified from the review, the deadline for feedback was the 13th of January 2017. Input from these reviewers was incorporated into this final report.

¹ Over 200 of these documents are contained in the reference list.

² All provider quotations not cited or referenced in Section 4 come from interviews/correspondence with the providers.

Section 2

Youth Development, Risk Taking and Young Drivers

There is a large amount of worldwide data available that highlights the high risk attached to young drivers (Bates et al., 2014) and to get an understanding of why this is we must first understand the complexity of what it is to be adolescent. Advances in technology have allowed the ability to explore and identify that the adolescent brain undergoes dramatic changes from around the age of 11 years old (Keating, 2007).

During both childhood and adolescence the brain responds and changes in relation to the world it finds itself in, cortical areas thicken and rarely used neural pathways are eliminated (Johnson & Jones, 2011). Changes around this age in the brain's socio-emotional system lead to increased reward seeking, particularly in the company of peers, driven by a reshaping of the brain's dopaminergic system³ (Steinberg, 2008). These neurological changes are also linked to sensation seeking and risk taking (Johnson & Jones 2011; Palamara et al., 2012).

Considering that these biological changes are inevitable it appears the risk taking activities that accompany them maybe somewhat inevitable too (Steinberg, 2004). They may even be a healthy part of adolescent development (Johnson & Jones, 2011).

There are also a wide range of other factors that can interact with these changes including social, cognitive and emotional development (Palamara et al., 2012). These include sensation seeking, identity development and peer influence (Scott-Parker, 2012). It is suggested that these factors are associated, can influence risk taking, and can interact in their roles relating to risk taking (Palamara et al., 2012). This can involve risky driving behaviour in youth (Scott-Parker, 2012).

Combined with a lack of driving experience (Williams, 2006), low levels of cognitive-perceptual skill and individual social factors (Oxley et al., 2014), these multifaceted factors elevate the risk of crash and injury for young drivers, through both failing to recognise danger (McKnight & McKnight, 2003) and intentional risk taking (Clarke et al., 2005) being highlighted in crash risk.

Given all this it appears that a young driver is at the highest risk of traffic accidents during their first year in traffic (McKnight & McKnight, 2003; Twisk & Stacey, 2007) and whilst driving unaccompanied (Isler et al., 2009), with the younger the age the higher the risk during that first year (McCartt et al., 2009).

Youth who are most likely to engage in risky driving may have: high sensation seeking⁴ and impulsivity traits, anti-social tendencies, low attentional abilities, anti-social peer relations and low levels of parental monitoring or poor family relationships (Harris et al., 2014).

The literature identifies two distinct groups within the ages that are the focus of this project, and these groups have been reported as a *Transitional Teen* (TT) group, which covers the ages 15-17 years and

³ Neural pathways in the brain that transmit the neurotransmitter dopamine from one region of the brain to another.

⁴ In their meta-analysis of personality as accident predictor af Wahlberg et al, (2017) included sensation seeking under the Extraversion dimension of the 'Big Five', and found the mean effect size to be extremely small.

Transition To Adult (TTA) group for the ages 17-20 (Wanberg et al., 2010). The TT group and the *Theory of Transitional Teens* is proposed by Voas & Kelley-Bakker (2008). They report that the TT group are exposed to various factors and influences including:

- Independent travel outside the home environment
- Travel with / influence of, peer groups
- Exposure to alcohol
- Travel to areas of greater risk

The authors report that:

'The transition teen developmental phase is one that encourages the isolation of teens into small affinity groups (the number who can fit in a car), and the transportation of such groups away from home environment supervisory regulations to locales where they may have a greater perception of control over their own behavior. This perception of control may be faulty because they have less familiarity with the extended environment' (Voas & Kelley-Bakker, 2008, p. 8).

Also reported by Voas & Kelley-Bakker (2008) is the importance of parental involvement and oversight. Parental oversight can contribute positively to adolescent driving behaviours (Bates et al., 2014; Bates et al., 2013; Brookland et al., 2014; Cestac et al., 2014). Young drivers who believe that their parents are not concerned with road safety may undertake risky driving (Taubman-Ben-Ari et al., 2014).

Whilst not the main focus of this paper, speeding is an area of high concern involving risky driving behavior by young drivers who are regularly identified as driving at high speeds (Watson et al., 2012). Scott-Parker et al., (2013) comment that:

'Speeding is arguably the most widespread risky – and illegal – behaviour for drivers in general, and for young novice drivers in particular, and can become an habitual behaviour' (Scott-Parker et al., 2013, p. 4).

Also reported are links between high range speeding offenders and other offences including; unlicensed driving, dangerous driving, seatbelt and 'other' offences (Watson et al., 2009; Watson et al., 2015).

There are other identifiable key risk factors for young drivers. These include, nighttime driving and carrying peer passengers (Fell et al., 2011; Gheorghiu et al., 2014; Voogt et al., 2014) and drink driving⁵. There are also other demographic factors, apart from age, including: employment; education; and gender, which can all have an effect on driving behaviour (Barua et al., 2014; National Research Council, 2007). The fact that young males are more likely to engage in risky driving is well documented in international research (Constantinou et al., 2011; Voogt et al., 2014). Taking into consideration these key risk factors resulted in the construction, in New Zealand, of a Graduated Driver Licence System or GDLS.

⁵ Drink driving is covered on page 31.

Graduated Driver Licence System

In New Zealand the Graduated Driver Licence System (GDLS) is designed to manage the crash risk of novice drivers as they learn to drive. In New Zealand GDLS restrictions include a night curfew (10pm-5am) and carrying passengers, unless accompanied by a supervising driver. To qualify as a supervisor, a person must hold and have held a full car licence for at least 2 years and be sitting in the front passenger seat (or as close as practicable to the driver if no front seat is available) and be fit to drive (e.g. not over the alcohol limit) (Ministry of Transport, 2012).

There are mandatory minimum time periods that must be served before a novice driver can apply to move to the next stage of the GDLS. The mandatory minimum periods are 6 months for Learner licences, and 12 or 18 months (depending on whether the driver completes an approved course) for Restricted licences for drivers under the age of 25. This allows novice drivers to acquire the required skills and experience under lower risk conditions before advancing to the next stage of the system.

It is intended that drivers progress through the GDLS to a full drivers licence. The aim is for drivers to do so in a graduated manner, demonstrating they have both the skills and the competence to drive safely under particular conditions. The required levels of supervision and restrictions reduce at each of the three stages in the licensing process until drivers have both the skills and the knowledge to drive safely and independently (Ministry of Transport, 2012).

GDL systems are credited with producing a significant drop in crashes, injuries and deaths (Bates et al., 2014; Begg et al., 2001; Fell et al., 2011; Hartling et al., 2004; Hedlund, 2007). There are however several challenges to GDL system integrity both in NZ and internationally. One of these challenges involves significant numbers of people driving outside their licence restrictions (Masten et al., 2014). Surveys and crash data have consistently shown a willingness of drivers to breach the conditions of GDLS (Begg et al., 1995; Begg & Stephenson, 2003; Curry, 2016). From our previous research phases we reported that GDLS breaches make up the greater part of all detected youth traffic offences (Waters, 2015; Waters, 2016).

Another challenge is 'pooling'. The Ministry of Transport (2012) reported that:

'Not all drivers are progressing through the GDLS to obtain full drivers licences. As a result pooling has occurred at both the learner and restricted licence stages. Pooling is said to occur when people spend two or more years on a learner licence and three or more years on a restricted licence. This means that they remain on their learner or restricted licences for well beyond the mandatory minimum time periods, without progressing to the next stage of the GDLS' (Ministry of Transport, 2012, p. 3).

The Ministry of Transport (2012) also reported that:

- 70 percent of all Learner licence holders were pooling
- 56 per cent of all Restricted licence holders were pooling
- 37 per cent of Learner licence holders had held their licences for more than 6 years
- 32 per cent of Restricted licence holders had held their licences for more than 6 years

Our previous research did not break down offences by duration of GDLS licence type held; this research, specific to young drivers, would be desirable, to investigate the hypothesis that breaching occurs more the longer a person has held a licence stage and hence is linked to pooling.

To combat this pooling NZ introduced legislation in December 2014 shortening the timeframe before licence renewal from 10 years to five. The first licences to expire earlier will not happen until 2019.

Langley et al. (2012) undertook a study of New Zealand drivers entering the licensing system from 2006-2008. The participants of this study were mostly young drivers with only 14 % being 20 years of age or older. In the study holders of learner drivers licences, who had not progressed through the GDLS (38% of all the drivers involved in the study), were asked why they had not progressed. The main reasons provided were:

- 27% said they were “too lazy or too busy to do so”
- 26% indicated they had limited access to the means to drive
- 14% mentioned financial constraints
- 11% said they had other transport options

Also in New Zealand economic factors have been found to be related to youth traffic offending. The New Zealand Institute of Economic Research (2016) reported that:

- *‘Being transport disadvantaged in New Zealand is more closely associated with access to and the ability to drive a private vehicle.*
- *The number of young people facing barriers to completing the GDLS in the most deprived areas in New Zealand is estimated to be between 70,000 to 90,000.*
- *Some people living outside the most deprived areas will also face barriers to progressing through the GDLS and will stop before obtaining their full licence.*
- *If a 20% reduction in the annual social cost of crashes and injuries for at fault unlicensed drivers aged 15 to 24 could be achieved, the annual benefit is estimated to be \$11.6 million.*
- *The estimated value of a 10% reduction in the social cost of at fault learner driver crashes and injuries is \$13.5 million for those aged 15 to 24.*
- *Between 9,000 to 10,000 people aged 18 to 24 had no licence when they first signed up for a Jobseeker Support - Work Ready benefit.*
- *If obtaining a licence could help 20% of Jobseeker beneficiaries into a job at the minimum wage, their combined income after tax would increase by between \$30 - 34 million in the first year.*
- *The one-off saving for the Ministry of Social Development would be between \$16 - 18 million and the increase in PAYE and ACC levies would be between \$3 - 4 million in the first year.*
- *From 2008 - 2013 over 4,703 people aged 14 - 19 appeared before the court for unlicensed driving and unpaid fines for unlicensed driving.*
- *56% of those that appear before the court receive a monetary fine which is similar to the financial cost of completing the GDLS to the level of a full licence.*
- *The issue of people obtaining a partial licence but never completing the GDLS in New Zealand is not limited to just young people.’ (New Zealand Institute of Economic Research, 2016, p.i).*

A wide ranging, multi-agency project⁶ investigating the issues of driver licensing in New Zealand reported that:

'We found that young people from disadvantaged communities face genuine difficulties in obtaining a licence, and disproportionate consequences if they don't. The current licensing system requires young drivers to have the financial means to pay for the licence (and the significant costs of getting one), as well as access to a legal car, a licensed supervisor and a testing station, as well as high standards of literacy. Many have to drive anyway just to meet their basic work, study and family obligations - but they risk potentially serious debt and justice penalties if they're caught' (Auckland Co Design Lab, 2016, p. 8).

It has also been reported that it is likely that income and costs may have some impact on observed changes in youth licensing (Delbosc & Currie, 2013, p. 11). The Co Lab summary paper (Auckland Co Lab Design, 2016) concluded:

'A graduated driver licensing system is critical to developing the next generation of safe, competent drivers, but the time is right to review how that system is structured, delivered and enforced' (Auckland Co Lab Design, 2016, p. 12).

The main enforcement of GDLS restrictions are carried out by the New Zealand Police, as is the enforcement of the other offences we are considering in this paper.

New Zealand Police and Youth Traffic Offenders

Enforcement is key to all attempts to ensure compliant driving and reductions in harm from non-compliance with traffic laws. In New Zealand high visibility policing is achieved through the use of Compulsory Breath Testing (CBT) operations.⁷ Without the probability of enforcement raising the probability of detection: the use of fines, DPS and all other measures would be futile.

The New Zealand Police have a range of measures available to them as outcomes for detection of youth traffic offences (Waters, 2015; Waters, 2016). The New Zealand Police can give warnings and, for some offences, offer compliance. Compliance is an alternative to paying a traffic infringement fine or prosecuting for minor rectifiable offences (e.g. vehicle defects, driver licensing issues). Police waive prosecution if the offender (owner or driver) supplies evidence to the Police Infringement Bureau (PIB) that a defect has been remedied or a requirement has been met. Traffic compliance allows the offender to redirect the fine that would have been payable, into fixing the faults or problems that caused the offence. Any offender not rectifying the issue within the timeframe is subsequently entered into the infringement records. While similar to Police Diversion (see below), it is referred to as 'traffic compliance' to avoid confusion with Court-ordered diversion.

From our Phase 1 and 2 data we see that every year the use of Police traffic compliance increases.

⁶ For more information see: <http://www.aucklandco-lab.nz/what-we-do/drivers-licensing/> Last accessed 10th Oct, 2016.

⁷ Police ask youth who fail an initial screening test for their driver licence to verify age (and hence legal BAC level), this detects licence offending. For more information on CBT operations see Waters, 2012a.

The Police can issue infringement tickets (fines), divert the offence through the use of *Police Diversion* (PD) for adult offenders or through the use of *Police Youth Aid* (PYA) for 10-16 year olds. Serious offending is referred to Court or Youth Court for disposition.

Police Diversion (PD)

Police Diversion is an adult scheme (17 years or over), that allows for some offenders who have been charged to be dealt with in an 'out of Court' way. If the offender completes the agreed conditions, the Prosecutor can seek to have the charge withdrawn and a conviction will not be recorded. The purposes of diversion (NZ Police, 2007) are to:

- Address eligible offenders in a proactive way
- Balance the needs of victims, the offender and their communities
- Give offenders an opportunity to avoid a conviction
- Reduce re-offending. The Police Prosecution Service is responsible for the Police Diversion Policy as well as administering and operating the diversion scheme

Police Youth Aid (PYA)

Police Youth Aid manages Police services for young people (under 17 years) who offend, are at risk of offending, or may be in need of care and protection. The main priority of PYA is to stop children and young people from re-offending while still making them accountable for their actions. Police Youth Aid Officers determine the best course of action for each offender by using a *Risk Screening Model*, which helps them develop targeted interventions that aim to address the reasons behind the crime. The aim of PYA is to keep young people out of the formal court system. To ensure this happens, interventions include working alongside community groups and organisations, which are dedicated to helping the offenders and their families.⁸

The *Youth Crime Action Plan* (YCAP) (Ministry of Justice, 2013) provides an overview of the key strategies set out to make a difference to the lives of children and young people, as well as 'best practice' guidelines for those working in the youth justice sector. Regarding Police Youth Aid the YCAP reports:

- *"The ability of frontline Police to issue warnings and decide to press charges will be limited so that almost all decisions will be made by Police Youth Aid.*
- *A shortened version of the youth offending risk-screening tool, based on a small number of questions, will be used to obtain a more accurate picture of the child or young person's risk of re-offending, to inform the decision on how to resolve the apprehension. The risk of re-offending will be identified earlier through improved risk screening using a shortened version of the Youth Offending Risk Screening Tool (YORST).*
- *Police Youth Aid will actively consult Child, Youth and Family about everyone referred to them to improve the quality of Youth Aid decision-making."* (Ministry of Justice, 2013, p. 16).

Youth Court Judge Andrew Becroft (2009) said of Police Youth Aid:

⁸ Source: <https://www.policeasn.org.nz/newsroom/publications/featured-articles/-day-life-theyouth-aid-section>
Last accessed, Oct 19, 2016.

'The levels of knowledge and experience that have been built up within this division of the Police is a credit to the New Zealand Police, and a large factor in the success of the youth justice system under the CYPF Act'⁹ (Becroft, 2009, p. 11).

Police Alternative Action¹⁰

Police Alternative Action is an innovative and complex response by Police to youth offending. Alternative Action comes from the term *alternative means*, as specified in section 208(a) in the Children, Young Persons, and their Families Act 1989. It provides another option for diverting youth from the formal court system which, like family group conferences, is restorative in nature and allows for referral to rehabilitative services where needed and occurs earlier in the youth justice process (Ministry of Justice, 2013).

Family Group Conference (FGC)¹¹

New Zealand was the first country in the world to utilise the Family Group Conference (FGC). A FGC is a formal meeting where the extended family comes together to discuss the concerns they have for their child or young person, find solutions, and together make the best decisions for their child. These meetings involve a young person who has offended, their family, victims and other people such as the police, a social worker or youth advocate. These meetings allow for discussion on how to help the young person to:

- *'Admit to what they did wrong and learn from their mistakes*
- *Find practical ways the young person can put things right and make up for what they did*
- *Review the reasons for the offending and investigate ways to help them turn their life around.'*¹²

Most conferences take one to two hours, but some may take longer. In fact the FGC has proven so successful that many other countries have followed New Zealand and adopted the process.¹³

A recent evaluation of FGCs in New Zealand found that, if implemented well, the FGC is an important and valuable decision making process for children and their family or Whānau¹⁴ (University of Canterbury, 2013).

FGCs are also addressed as part of the Youth Crime Action Plan (Ministry of Justice, 2013) with reported plans to ensure that:

⁹ Children, Young Persons and Their Families Act 1989.

¹⁰ For more information see New Zealand Police (2011). Police Youth Aid officers carry out Alternative actions.

¹¹ There are different types of FGCs. For example, the purpose of an FGC is not to decide whether an Alternative Action is required. Alternative Actions are strictly a Police response to offending, and will usually be a 'first' response that may lead to an ITC FGC. For further reference, see section 258 CYPFA for a comprehensive list of the purposes of youth justice FGCs. Importantly, an FGC can result in the development of a plan for the young person to carry out as a response to their offending.

¹² Source: <http://www.cyf.govt.nz/keeping-kids-safe/ways-we-work-with-families/family-group-conference-or-fgc.html> Last accessed Oct 19, 2016.

¹³ Source: <http://www.cyf.govt.nz/youth-justice/family-group-conferences.html> Last accessed Oct 19, 2016.

¹⁴ Whānau is often translated as 'family', but its meaning is more complex. It includes physical, emotional and spiritual dimensions.

- *“Whānau, families and agencies identify each offender’s needs, risks, and strengths – in particular, those factors that are driving their offending behaviour – and create plans that respond to them.*
- *Assessments of young offenders are comprehensive and include information about them, their family and the context in which they live.*
- *Assessments highlight other important issues such as care and protection needs.*
- *The family and young person understand all the issues that need to be addressed.*
- *The family group conference is fully informed and enabled to make good decisions”* (Ministry of Justice, 2013, p. 16).

Restorative Justice (RJ) and New Zealand Youth Court

New Zealand’s Youth Justice System is governed by the Children, Young Persons and Their Families (CYPF) Act 1989 which sets out youth justice principles and procedures and guides the functions of the Youth Court. The decision informing principles of youth justice are provided under section 208 of the CYPF Act. The youth justice components of the Act aim to divert young people from the formal criminal justice system. Drawing young, especially low level, offenders into the formal criminal justice system can increase their offending (Adler, 2016; Greenwood, 2008).

The Youth Justice System utilises the approach of Restorative Justice (RJ) (Sanders et al., 2013). A NZ Government investment brief (New Zealand Government, 2016) defines RJ as follows:

‘Restorative Justice is a broad concept with no agreed definition, and significant overlap with other concepts such as community justice’ (New Zealand Government, 2016, p. 2).

In New Zealand the most common form of RJ is the RJ conference. RJ conferences bring together offenders and victims along with their support networks and maybe community representatives to discuss an offence and attempt to arrive at an agreed view of how to rectify the wrongdoing. One of the main purposes of this form of RJ is to allow an offender to express remorse and offer an avenue leading to a sense of closure for the victims of crime. Previous meta-analysis has demonstrated that RJ conferencing leads to lower rates of re-offending than standard processing through the courts system without RJ. (New Zealand Government, 2016).

In New Zealand young people aged 14 to 16 years of age can be dealt with in a Youth Court that takes into account the welfare of those attending. Youth Courts are focused on family based decisions that endeavour to resolve issues within a community-based setting as opposed to the sanctions and punishments typically issued to adult offenders (aged 17 or over) in a District Court setting. Non-imprisonable traffic offences are however dealt with in District Courts regardless of age.

A basic overview of the youth justice system in New Zealand shows that it sometimes involves a Family Group Conference to decide whether the matter can be dealt with by Alternative Action¹⁵, or whether a charge needs to be laid in the Youth Court. Young people who go to the Youth Court have a hearing, presided over by a Judge.

¹⁵ For further information see, New Zealand Police, 2011.

A Court may appoint a Lay Advocate to support the young person and their Whānau/family in Court. Lay Advocates are people with mana¹⁶ or standing in the young person's community. They make sure the Court is aware of any cultural matters involving the case as well as representing the family's views.

Young people can also have family/Whānau or other support people with them in the Court. When their hearing starts, the young person will be asked by the judge whether or not they deny what the Police report they did. If they deny the charge the judge will tell them a date to come back for a defended hearing (this is called an adjournment). At the defended hearing, it's the Polices' responsibility to convince the Judge that the young person did commit the offence. If the Police do not prove the offence, the case will be dismissed and the young person's Court case is finished.

If the Police do prove that the young person committed the offence, the young person and their family/Whānau will have to go through a Family Group Conference to decide a plan for how the young person can take responsibility for what they did, as well as working out how to ensure the young person doesn't re-offend.

If the young person agrees with the Police version of events, their case is sent to a youth justice coordinator. The coordinator will also arrange a Family Group Conference as outlined above.¹⁷

The literature review, as well as recent media reports¹⁸, revealed information regarding young offenders and law reform under consideration that could have substantial implications for the way young traffic offenders are dealt with. These involve the reformation and modernisation of the Criminal Procedure Act 2011 and also the modernisation of the Child, Young Persons and their Families (CYPF) Act 1989. These developments must be reported on in some detail.

In a submission on behalf of the Youth Court Judges (Becroft, 2011) regarding the Criminal Procedure (Reform and Modernisation) Bill, it is commented that:

'The exclusion of non-imprisonable traffic offences and the enforcement of infringement notices in respect of children and young people from the jurisdiction of the Youth Court has long been recognised as an anomaly. The sight of young people in school uniform waiting to attend court standing next to fully patched gang members to defend a careless driving charge or a speeding ticket is contrary to all established wisdom about protecting young people from unnecessary contact with the adult justice system. It is also contrary to the principles of the Children, Young Persons, and Their Families Act 1989. The fact that the young people are appearing in the adult court on minor matters makes the anomaly even more glaring' (Becroft, 2011, p. 5).

Becroft (2011) outlines some of the noted opposition to this inclusion, namely that this would increase the workload of Youth Court or involve unnecessary FGCs. Becroft offers the following commentary on these oppositions:

'Contrary to the first argument, there would be little or no increase in workload. Youth Court judges, sitting as District Court judges, currently try to deal with most of these cases by arrangement with court

¹⁶ Mana is a Māori word meaning: prestige, authority, control, power, influence, status, spiritual power, charisma - mana is a supernatural force in a person, place or object.

¹⁷ Source: <https://youthcourt.govt.nz/> Last accessed, Oct 19, 2016.

¹⁸ For example: http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=11682522 Last accessed, Oct 19, 2016.

staff who contrive to schedule them into regular Youth Court lists. The Youth Court acts as a District Court for that case. The current system is ad hoc and unprofessional. In respect of the second argument, the objection to holding a family group conference (FGC) for these minor offences is justifiable. The clear and workable solution however, is to enact a statutory provision exempting young people charged with these offences/infringements from that more resource intensive and time consuming aspect of the usual youth justice procedure, unless special circumstances point to a FGC being beneficial’ (Becroft, 2011, p. 5).

In the Youth Court Judges submission Becroft (2011) also comments that;

‘Youth Court judges believe there would be no better opportunity to ‘complete’ the task of redefining and simplifying the jurisdiction of the Youth Court by including minor offences and infringements than is presented by the passage of this Bill. There will be lasting disappointment if this once in 50 year chance to resolve such an important matter is not taken’ (Becroft, 2011, p. 5).

Further, on behalf of all Youth Court Judges, Becroft (2011) makes the recommendation that:

‘We strongly recommend including minor traffic and alcohol infringement offences by children and young people within the jurisdiction of the Youth Court’ (Becroft, 2011, p. 6).

In April 2015, the Minister for Social Development established the ‘Modernising Child, Youth and Family Expert Panel’ to review and develop a plan for the modernisation of Child, Youth and Family (CYF). An interim report of the expert panel findings comments that:

From a youth justice perspective, the age range set out in the CYP&F Act means that offences committed by young people aged 17 or older are treated as adult offences. In practice, this means that 17-year-olds do not have the protections or range of services and interventions offered by the youth justice system, including:

- *‘Police Youth Aid alternative action;*
- *A Family Group Conference as a mechanism for addressing offending by young people outside of the formal court process; and*
- *The sentencing options available in the Youth Court which are tailored towards rehabilitation and reintegration’ (Ministry of Social Development, 2015, p. 67).*

Becroft (2014) also raises the issue of the exclusion of 17 year olds commenting that:

‘New Zealand’s upper age limit of 17 has been met with criticism by the United Nations Committee on the Rights of the Child. The United Nations Convention on the Rights of the Child defines a “child” as a young person up to the age of 18. An upper age limit of 18 would also be consistent with brain science, which makes plain that at 17, the brain is still very much in a state of development. It is suggested that “maturity of judgment” measures (such as responsibility and perspective) are not fully attained until, on average, 20 years of age. Areas of the brain that deal with higher level executive functions (such as impulse control, judgement and managing strong emotion) do not fully mature until well into the 20s. As adolescents, 17 year olds are more prone to risk taking behaviour and peer pressure than adults. Most other western countries set their upper limit at 18. All of Australia (except Queensland), Canada, Great Britain and 38 states of the United States of America allow 17 year old offenders the right to appear before a Youth Court’ (Becroft, 2014, p. 3).

Some commenting on the exclusion criteria want the age raised even higher (Justspeak, 2016), citing the same developmental issues involved with young people.

The raising of the age, from 16 to 17 and the inclusion of non-imprisonable traffic offences with regards to Youth Court, whilst not part of the reform bill are both currently under consideration by Cabinet.

Traffic Infringement Fines¹⁹

Traffic infringement fines or proscribed fixed fines have been used in New Zealand for certain traffic offences since the 1950s. In the late 1970s the majority of minor traffic offences were being dealt with by the Courts. In an effort to reduce the pressure on Court resources, the range of offences that could be dealt with through fines were extended during the 1980s.

Infringement notices are issued by Police Officers or for camera detected offences by automated notices. The use of traffic infringement fines²⁰ are meant to reduce re-offending through general and specific deterrence and therefore improve road safety.

In a study paper produced by the New Zealand Law Commission (2005), regarding the infringement system and a 'framework for reform', it is reported that the infringement system is underpinned by two concepts:

'First, it is premised on a trade-off between the prosecuting authority and the defendant, according to which both benefit. Secondly, a one-size-fits-all approach exists' (New Zealand Law Commission, 2005, p. 12).

That infringement fines are a *'one size fits all'* response for young people/drivers and adult drivers alike does raise some concern. The study paper informs of the infringement approach:

- *'The original "one-size-fits-all" approach to infringement offences is a blunt form of justice when applied to the existing expanded range of infringement offences and does not allow for consideration to be given to the circumstances of the offence or of the defendant.*
- *The high number of infringement notices issued may compromise their deterrent effect as a sanction for minor offending.*
- *The negative impact of a number of well-publicised cases, particularly of young defendants who have accumulated high levels of infringement fees, appears to have affected public confidence in the integrity of the system'* (New Zealand Law Commission, 2005, p. 10).

In 2004 The New Zealand Law Commission also produced a discussion paper addressing 'Options for Reform' regarding the infringement system (Ministry of Justice & The Law Commission, 2004). The report informed that young people have *'limited means'* (Ministry of Justice & The Law Commission, 2004, p. 87), and that *'interventions should be age appropriate'* (Ministry of Justice & The Law Commission, 2004, p. 86).

¹⁹ Though it is a distinction not usually made in most public discourse, the section is actually talking about infringement fees (not fines). Infringement fines are only created when an unpaid fee is filed in Court.

²⁰ Fines are not only issued by Police but also the Courts and local authorities. See Waters 2015b, p.12.

Regarding 'young defendants who have accumulated high levels of infringement fees', at the extreme end of the scale traffic fines for young drivers can result in the accrual of enormous debt. There are reports of one young driver amassing a staggering \$100,000 worth of fines for continually breaching the conditions of their driver's licence²¹, and another young driver paying off over \$49,000 in fines on a weekly basis.²²

Whilst these are extreme cases, data from Phases 1 and 2 of this project (Waters, 2015; Waters, 2016) reveal that the majority of GDLS and unlicensed driving infringement fines are referred to Court unpaid. For example:

- From 2009-2014, 90% of the 'Drove without appropriate driver licence' infringement offences were referred to Court unpaid.
- From 2009-2014, 82.6% of 'Learner licensee failed to display an "L" plate' infringement offences were referred to Court unpaid.
- From 2009-2014, 81.7% of 'Learner Driver Unaccompanied' infringement offences were referred to Court unpaid.
- From 2009-2014, 57.3% of 'Restricted Driver Carries Unauthorised Passenger' infringement offences were referred to Court unpaid.
- From 2009-2014, 56.9% of 'Restricted Driver Unaccompanied Between 10pm And 5am' infringement offences were referred to Court unpaid.

The Law Commission discussion paper (Ministry of Justice & The Law Commission, 2004) puts forward several options for reform regarding infringement notices and young people. In summary, they suggest: excluding or limiting young people (14-17 year olds) from infringement notices (Ministry of Justice & The Law Commission, 2004, p. 86); or that young people be subject to a 'sliding scale' of the infringement fee (some Scandinavian countries and Germany have adopted these type of sliding scales based on an individual's income); or that a greater emphasis could be placed on compliance by allowing other payment arrangements (Ministry of Justice & The Law Commission, 2004, p. 89), as well as dealing with young people through the use of Police Youth Aid or other alternative action (Ministry of Justice & The Law Commission, 2004, p. 87).

With regards to repeat traffic infringement offenders the Law Commission discussion paper (Ministry of Justice & The Law Commission, 2004) forwards that:

- *'Where an infringement offence causes a reasonable degree or risk of social harm (for example, a speeding offence), continued offending can be seen as increasing a defendant's culpability, and a targeted response may therefore be more justifiable.*
- *Entrenched repeat defendants are generally considered to be more culpable than 'one-off' defendants because they continue to offend in defiance of the law and previous sanctions. A targeted response for such defendants would enable this increased culpability to be recognised for the purpose of holding defendants accountable for their conduct.*

²¹ http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10354894 Last accessed, Oct 19, 2016.

²² http://www.nzherald.co.nz/nz/news/article.cfm?c_id=1&objectid=10594145 Last accessed, Oct 19, 2016.

- *In terms of deterrence, criminological studies identify increased penalties and greater certainty of punishment as the two main ways of making punishment regimes more effective in deterring entrenched behaviour. However, these need to be considered in the context of the particular infringement regime and the defendants being targeted.*
- *Many studies show that a greater certainty of punishment is associated with lower offence rates. Certainty of punishment is dependent on the likelihood of detection or, more specifically, the potential offender's perception of the likelihood of detection. However, certainty of detection is of little value if the penalty itself is unenforceable' (Ministry of Justice & The Law Commission, 2004, p. 94).*

It has been suggested that an increase in penalties for subsequent offending would enhance the deterrent effect (Elliott, 2003) but again traffic infringement notices are a *'one size fits all'* response and do not take into account individual circumstances regarding the offence or the means of an individual to pay. Regarding increasing penalties the Law Commission discussion paper (Ministry of Justice & The Law Commission, 2004) noted:

'While increasing the penalties for offending can help deter entrenched behaviour, such gains are subject to diminishing returns with successive rises, and may even have a detrimental effect if the penalty increases out of proportion to the gravity of the offending. In addition, there is also evidence in psychological literature that repeat offenders are not deterred by harsher penalties, and that instead, harsher penalties influence these offenders to alter their strategies to avoid detection' (Ministry of Justice & The Law Commission, 2004, p. 94).

According to *Deterrence Theory* sanctions are to be severe, swift, and certain. Police enforcement has traditionally utilised deterrence theory to underpin their activities regarding road policing (Bates, 2014). Wilde (2014) suggests that punishment itself may result in:

'..negative side effects; one of these is a dysfunctional social climate, a climate of resentment, uncooperativeness, antagonism, and sabotage. As a result, the very behaviour that was to be prevented may in fact be stimulated. Punishment may increase the inclination to beat the system' (Wilde, 2014, p. 156).

Bates (2014) emphasised the use of *Procedural Justice* regarding the Police and their interactions with motorists to avoid creating negative perceptions. The finding that young male drivers may be particularly resistant to punitive sanctions has also been reported (Constantinou, 2011).

Moffatt and Poynton (2007) reported in their analysis of the deterrent effect of higher fines on recidivism for driving offences that they:

'..failed to find any evidence for a significant relationship between fine amount and the likelihood that an offender will return to court for a new driving offence. Nor was there any evidence from our analyses to suggest that longer licence disqualification periods reduced the likelihood of an offender reappearing before the courts. The only significant effect of penalty type occurred in relation to speeding offences. In this instance, longer licence disqualification periods appear to increase the risk of subsequent offending; a finding that runs contrary to deterrence hypotheses' (Moffatt & Poynton, 2007, p. 9).

During our previous data gathering phases we did not provide detailed information on repeat traffic infringement offenders.²³ Whilst the payment of fines may be dependent on an individual's means and ability to pay, in New Zealand traffic offences not only have a monetary infringement response but also a complementary Demerit Point System (DPS) response. Whilst fines may not provide a great deterrence incentive to adhere to the rules of the road, particularly for affluent drivers, the DPS may.

Demerit Point Systems

Demerit Point Systems (DPS) are a general and specific deterrent towards unsafe driving practices and non-conformity to the road rules for the offences the DPS is aimed at. A DPS will either allow a driver or owner of a vehicle²⁴ to accrue or lose a certain amount of points the quality of which is defined by the associated offence.

Most countries with a DPS in place adopt the accrual method, though some countries in Europe have DPS that start out with a set amount of points which depreciate with every detected offence that is covered by the DPS. There is evidence to suggest that the latter may be a preferable approach; *Prospect Theory* (Kahneman & Tversky, 1979) suggests that people prefer avoiding losses than acquiring gain. Given that here in New Zealand we use an accrual DPS this terminology will be used with regards to DPS in this section.

Demerit points are given for all speeding infringements (except those recorded by speed camera), some traffic offences, and for breaching licence conditions (e.g. a learner driver unaccompanied by a supervisor or a Restricted driver carrying unauthorised passengers). Demerit points also apply to some alcohol-related infringements and offences, for example, points can be allocated in conjunction with a Court disqualification where the Court chooses to disqualify a person for less than six months.

In New Zealand, demerit points remain active on a drivers licence record for a period of two years from the date of the offence. However, if the court disqualifies a driver for a period of six months or more, any active demerit points recorded on their licence record at the time will be cancelled and will no longer contribute to their active demerit point total.

If a driver accumulates 100 or more active demerit points within any two year period, their licence will be suspended for a period of three months and they will not be entitled to drive.²⁵ The suspension period begins as soon as the demerit suspension notice is served on a person by the Transport Agency, the Police or an authorised agent of the Transport Agency. Any active demerit points recorded on a drivers licence record at the time will be cancelled and will no longer contribute to their demerit point total. At the end of a driver's demerit suspension, they will be unlicensed and not entitled to drive until the driver has completed the process to reinstate their licence.²⁶

²³ Except first time detected unlicensed driving offences. A second offence of which would result in a Court appearance for which we did have re-offending data. See Waters 2016, page 5.

²⁴ In New Zealand automated camera detected speeding and red light running offences are attributed to the vehicle owner.

²⁵ For more information see: <http://www.nzta.govt.nz/assets/resources/factsheets/55/docs/55-driving-offences-and-penalties.pdf> Last accessed, Oct 19, 2016.

²⁶ Source NZTA. For further information on demerit points visit: <https://www.nzta.govt.nz/driver-licences/driving-offences-and-penalties/demerit-points/> Last accessed, Oct 19, 2016.

A warning letter is dispatched to the last known address of the driver by postal service once a driver exceeds the halfway mark (50 points).²⁷ Examples of the NZ DPS offence amounts relevant to the current research are found below in Table 1:

Table 1: Demerit points for driver licence related offences

General description of offence	Demerit points
Drives motor vehicle contrary to the GDLS conditions of his or her driver licence (excluding the requirement to display L plates)	35
Failure to display L plate as required	25
Drives a motor vehicle contrary to the non-GDLS conditions of his or her driver licence	25

Speeding offence demerit points are applied according to a sliding scale dependent upon the speed of the offence and range from 10-50 demerit points. Alcohol related offences (where demerit points apply) range from 25-50 demerit points. Camera detected offences are not subject to demerit point accrual.

Research has shown that a DPS can be linked to crash reductions and reduced fatalities (Pulido et al., 2010; Twisk & Stacey, 2007).

Assailly et al. (2012) in their identification of essential features for an effective DPS report that:

'Thresholds for intermediate actions like driver improvement courses should be placed so that the DPS delivers a fast response upon repeated offences; it should take no more than two severe offences to send someone to a driver improvement course' (Assailly et al., 2012, p. 9).

Young drivers, the authors note, should receive special treatment with a faster response or lower thresholds for intermediate interventions providing earlier prevention and increased safety. Bartl et al. (as cited in Assailly et al., 2012) also suggest that rehabilitation and driver improvement interventions should be targeted towards specific groups of drivers. Assailly et al. (2012) divide these target groups as follows:

- *'First-time drink and drive offenders,*
- *Second-time drink and drive offenders,*
- *Alcohol and drug offenders with stated addiction, other personality disorders,*
- *Novice drivers during probation period,*
- *Drivers with serious/multiple traffic violations'* (Assailly et al., 2012, p. 61).

Personality characteristics of young drivers should also be taken into account when applying road safety promotions (Ulleberg & Rundmor, 2003).

²⁷ Registered drivers are responsible for providing details regarding changes of address.

Assailly et al. (2012) also report that inclusion of a rewards style component, such as practised in the NZ DPS (points remittal after a 2 year period) is also desirable. Research is currently being undertaken by NZTA regarding *'the human response to licensing points'* in general.²⁸

New Zealand currently has no mechanism built into its DPS for the triggering of alternative actions via demerit point accrual for either adult or youth offenders. A young driver could, for example, accrue the maximum number of points for 3 x *'driving a motor vehicle contrary to the GDLS conditions of his or her driver licence (excluding the requirement to display L plates)'* offences; receive a 3 month suspension, then accrue the maximum number of points again. This is of course if they were not detected driving while suspended/disqualified, which could eventually lead to a Court appearance and possibly a prison sentence. It is reported that one of the drawbacks of a DPS is that it has the ability to create the offence of unlicensed driving (Assailly et al., 2012).

Unlicensed Driving – Observations from the Review

In New Zealand, apart from those drivers breaching Restricted licence conditions (as part of a GDLS), unlicensed driving can broadly fall into three categories:

- Never Licensed
- Suspended Licence
- Disqualified from driving

Our current research covers GDLS breaches and the first two descriptions of unlicensed driving. Previous research has shown that unlicensed driving is linked to drink driving (Sweedler & Stewart, 2007), and that up to 70% of drivers self-report driving whilst disqualified (Baldock et al., 2013). The need for incorporating rehabilitation into existing licence sanctions has also been reported (Clark & Bobevski, 2008).

Research conducted by the Department of Transport in the UK (Knox et al., 2003) provided information showing that many unlicensed drivers are young and male and less likely to have passed their theory test. The report also identified danger points such as those who failed the theory test and felt they had *'nothing to lose'*. The research also identified groups who were likely to drive unlicensed; these included: young persons who are disqualified and do not try to regain their licence; and low income earners who could not afford lessons, test fees or insurance. This same report also recommended providing assistance for drivers regarding acquiring their licence through unemployment benefit support, as well as research to be undertaken to:

'..assess the effect of failing the driving test and this should include an assessment of whether this contributes to unlicensed driving' (Knox et al., 2003, p. 124).

Limited transport options can further result in *'secondary offending'* (Clark et al., 2015a).

²⁸ NZTA information supplied.

Drink Driving – Observations from the Review

Drivers convicted of drink driving present a serious risk to other road users. Hedlund and Fell (1995) reported that those offenders convicted of drink driving are 4.1 times more likely to be involved in a fatal crash while intoxicated by alcohol than are average licensed drivers. Research also reports that 35 - 40% of all fatally injured drinking drivers are estimated to have had at least one prior drink driving offence (Simpson, 1995; Vingilis et al., 1994).

Licence suspension has provided the best evidence of effectiveness in reducing repeat offending (Nichols & Ross, 1991; Peck et al., 1985; Voas, 1986; VicRoads, 2016). However, both self-reports (Ross & Gonzales, 1998) and covert surveillance (McCartt et al., 2003) of suspended drink drive offenders show that many of these drivers continue to drive without licences and that they often do so even after becoming eligible for licence re-instatement (Tashima & Helander, 1992).

Impaired driving, including alcohol, has been reported as being more prevalent amongst the young driving population (Shope, 2008). This is also true of New Zealand, with Begg et al. (2016) reporting that:

'We found that high alcohol use was common among young newly licensed drivers and those who repeatedly reported high alcohol use were at a significantly higher risk of unsafe driving behaviours' (Begg et al., 2016, p. 2).

Our previous data reveal that youth drink and drug driving offences have fallen by 62.3% from 2009 to 2014 (Waters, 2016). From 2009 to 2013 there were 31,000 youth drink/drug offences (Waters, 2015). Drink/drug driving involves a high safety risk. Road crashes are a leading cause of unintentional death for New Zealand youth, and among the top causes of loss of life years for New Zealanders because of their prevalence among youth. Youth are over represented in road crashes, particularly in *'at fault'* crashes.²⁹

Drink driver rehabilitation programmes have been reported to be an effective intervention for repeat drink drivers (Boets et al., 2008; Waters, 2012b; Wells-Parker, 1994). While there are rehabilitation programmes available internationally and in New Zealand for drink drivers these programmes are not specific to youth and are in the main directed towards adult offenders.

Whilst there are young driver intervention programmes that report the inclusion of drink driving offenders³⁰ the literature review did not identify any drink driving specific interventions for young drivers that had undergone evaluation. The review did however reveal a significant work compiled by Wanberg et al. (2010), that was an adjunct to a previous work (Wanberg et al., 2005), that focused solely on underage impaired driving offenders. These works describe the rationale and content for the *Driving With Care* (DWC) programme for impaired drivers. The DWC programme is directed at adult impaired drivers and the rationale for the adjunct work was described by Wanberg et al. (2010) in the introduction as follows:

²⁹ For more information see: <http://www.transport.govt.nz/research/roadcrashstatistics/highriskdriversstatistics/>
Last accessed Oct 23, 2016.

³⁰ See Section 3.

‘..the theoretical and research literature as well as the practical experiences of the authors of DWC indicate that there are sufficient differences between the underage and adult impaired driving offenders to warrant some variations in education and treatment approaches. These differences are not only due to the developmental characteristics of adolescents but also to some unique causative and dynamic factors related to underage drinking and underage impaired driving’ (Wanberg et al., 2010, p. 1).

The age group focus of this work, 15-20 year olds, was the closest age group relation to our original target group of 14-19 year olds.

The provider’s guides and participant workbooks relating to the DWC programme consist of 5 volumes (Wanberg et al., 2005a; Wanberg et al., 2010; Wanberg et al., 2004; Wanberg et al., 2005b; Wanberg et al., 2005c) of in depth research regarding impaired drivers with the underage adjunct volume comprising nearly 300 pages. Some of the underage adjunct chapter titles reveal the depth of this work:

- Theoretical and conceptual framework for understanding adolescent problem behaviour
- Scope of the problem: incidence, consequences and costs
- Prevalence and consequences of alcohol and other drug use in underage populations
- Risk, causal and dynamic factors related to underage drinking and drug use
- Causal and dynamic factors related to underage impaired driving
- Assessment of the underage impaired driving offender

There are no evaluations of the DWC programme specific to young drivers currently available but it is the author’s view, after reading in detail all of the volumes relating to the DWC programme, that there is a strong case for a tailored specific approach to the treatment of young drink driving offenders.

An area of interest regarding, in particular alcohol interventions for youth, are *Brief Interventions* (BI). Monti, (2004) informs that alcohol education programmes have traditionally provided information relating to the risks of alcohol use in a variety of ways. These interventions can involve lectures, group sessions or one on one interviews. It has been commented that due to the various drinking patterns of young adults, and the observed minimal effect of traditional alcohol education programmes on this population, that:

‘..more targeted, systematic approaches are needed to help young adults recognise and reduce their hazardous drinking’ (Monti, 2004, p. 239).

Monti (2004) also reports that young adults may respond more positively to brief, more intensive interventions, than those longer term interventions that have been utilised historically for adults with longer term alcohol issues. Brief interventions involve between one to four sessions with a trained provider, such as a psychologist or social worker, with these sessions lasting from 30 minutes to an hour (Monti, 2004).

The authors (Tanner-Smith et al., 2015) of a meta-analysis involving 185 experimental and quasi-experimental studies that examined the effects of brief interventions on alcohol related outcomes for non-treatment seeking adolescents (age 11-18) and young adults (age 19-30), reported that:

'Findings from the current meta-analysis provide compelling evidence that brief alcohol interventions can yield beneficial effects on alcohol consumption and alcohol-related problems in non-treatment seeking populations of adolescents and young adults' (Tanner-Smith et al., 2015, p. 16).

Brief interventions that include *Motivational Interviewing* are referred to as a *Brief Motivational Intervention* (BMI). Motivational Interviewing (MI) is a counseling style that is typically used with individuals who are ambivalent about taking steps to change certain behaviours (Miller & Rollnick, 2002) and offers a way to work with '*Client Resistance*' (Hollin, 1994). MI allows professional staff to build a good rapport with the offender and to encourage them to change negative behaviours on their own (Brown et al., 2010). Many Drink Driver Rehabilitation (DDR) programmes make use of Motivational Interviewing (MI) techniques that attempt to encourage the offender to acknowledge their alcohol problems and understand the need for treatment, though Ouimet et al. (2014) suggest that further study is needed regarding MI and young drink driving offenders.

As with the majority of issues surrounding young people and traffic offending or offending in general, parental monitoring can reduce the risk factors involved in young drink driving behaviour (Haegerich et al., 2016).

The use of alcohol ignition interlocks is reported in Section 5 '*Technology and Online Interventions*'.

Section 3

Theories, Therapies, Models and Behaviour Change Techniques

The literature review reveals an abundance of theories, psychosocial theories and therapies regarding youth and offending that can inform countermeasures and be used to construct and design youth offender/driver intervention programmes. We have previously mentioned *Deterrence Theory, Prospect Theory, Brief Intervention, Transitional Teens Theory* and *Motivational Interviewing*; and whilst this current project does not have the scope for an in-depth focus on all the relevant theories/techniques, there are several worth noting that appear frequently in the established expert literature.

Risk Needs and Responsivity

Risk Needs and Responsivity (RNR) provides a model that is used for both adult and youth offenders. This model proposes matching intervention services to the likelihood of offending, focusing on those with a higher assessed risk of re-offending (risk); attending to the predictive factors of offending (needs) and individualising a response to cater for and maximise the offenders' ability to learn (responsivity), while taking into account factors such as age. Studies (Andrews et al., 1990; Andrews & Bonta, 2010) and meta-analysis (Koehler et al., 2013) have shown RNR to be effective in reducing re-offending.

Functional Family Therapy and Multi Systemic Therapy

Functional Family Therapy (FFT) and *Multi Systemic Therapy* (MST) are family and community based treatments. These interventions work in a multifaceted way, positioning young people within their family, peer group, school and wider community networks. These therapies aim to address serious antisocial behaviour in both young men and young women, in the case of MST between the ages of 12 and 17 and for FFT between 11 and 18. The duration of these types of intervention is over a period of 3-4 months. Both FFT and MST have been identified as being effective in reducing re-offending rates (Greenwood, 2008; Hennegler et al., 1992).³¹

Cognitive Behavioural Therapy

Cognitive Behavioural Therapy (CBT) is a form of psychosocial therapy that attempts to reduce problematic behaviour by dealing with thoughts and beliefs through psychotherapeutic approaches (Beck, 1993). The ultimate goal is to change an individual's behaviour by changing their thoughts. Many studies support the use of CBT in treating alcohol abuse (Robertson & Holmes, 2011). Adler et al. (2016) provide the most recent summary of the international evidence of 'what works in managing young people who offend'. This summary involves offenders from the age of 10 through to 17 years for interventions and programmes. Adler et al. (2016) identify Cognitive Behavioural Therapy as being highly effective. It is also reported in New Zealand that the evidence base for using CBT is particularly strong (New Zealand Government, 2016).

Risk Homeostasis

Risk Homeostasis is a preventative approach, regarding young driver accidents this is in diametric opposition to the traditional restrictive, punitive and reactance-producing (boomerang-effect inviting) of current policies. Risk Homeostasis provides an incentive (or conditional reward) approach; offering

³¹ For a detailed insight into the theory underlying MST see Hennegler (2009) and Henggeler & Schoenwald (2011). For a recent meta-analysis of MSTs effectiveness see van der Stouwe et al., (2014).

incentives for accident-free driving and subsequently rewarding those drivers who meet the incentive conditions.³² Studies have reported improved safety performance when using this approach (Wilde, 2014).³³

Weston (2016) also explores the use of rewards and cites Siegel regarding how adolescents are more inclined to seek rewards and are less concerned about potential risks (Siegel, 2014 as cited in Weston 2016). Weston concludes that:

'It may be more effective to use this intrinsic sensitivity to reward to try and reduce young peoples' engagement in risky behaviour, rather than try to induce a fear of punishment onto a group who are, by nature of their age, less likely to be affected by this' (Weston, 2016, p. 253).

Other Relevant Theories

Other relevant theories regarding our target cohort of young drivers are the:

- *Theory of Planned Behaviour* (Ajzen, 1985), which can be used to construct messages regarding behaviour and attitudes with the intention of challenging existing attitudes and behaviours.
- *Social Learning Theory* (Akers et al., 1979), which informs on how the role of other important people in our lives (e.g. parents, peers) can influence attitudes and behaviours.
- *Protection Motivation Theory* (Maddux & Rodgers 1983), which proposes that we protect ourselves based on four factors: the perceived severity of a threatening event, the perceived probability of the occurrence, or vulnerability, the efficacy of the recommended preventive behaviour, and the perceived self-efficacy.
- *Experiential learning* (Kolb, 1971) which is the process of learning through experience, and is more specifically defined as learning through reflection on doing.

These theories and many more can also be utilised to inform on *Behavioural Change Techniques* (BCT) that can be applied in driver intervention programmes. A meta-synthesis (Johnson et al., 2010) of BCT interventions found that:

'..behavioural interventions reduce health-damaging behaviours and facilitate health-promoting behaviours' (Johnson et al., 2010, p. 2197).

Fylan (2008) suggests there is a strong case for BCT to be used when designing road safety interventions.

Lipsey (2009) in his meta-analysis of effective interventions for juvenile offenders concluded that:

'interventions that embodied "therapeutic" philosophies, such as counseling and skills training, were more effective than those based on strategies of control or coercion—surveillance, deterrence, and discipline' (Lipsey, 2009, p. 143).

Adler et al. (2016) identify the key elements of effective interventions for young offenders as involving approaches that:

³² Correspondence with G Wilde.

³³ For an in depth view of risk homeostasis see Wilde (2014).

- *'Assessed the likelihood or risk of an individual reoffending and, importantly, matched services to that risk level with a focus on those who are assessed as having a higher likelihood of reoffending.*
- *Considered the needs and strengths of the individual and their ability to respond to the intervention.*
- *Were characterised by using a combination of skills training and cognitive behavioural intervention approaches, rather than deploying primarily punitive or surveillance focussed programmes.*
- *Considered the amount and quality of service provided and programme fidelity. The wider offending context, such as family, peers and community issues, should also be taken into account.*
- *Employed a multi-modal design with a broad range of interventions that address a number of offending related risks. Case management and service brokerage can also be important.*
- *Made sure communication between staff and young people was strengthened through mutual understanding, respect, and fairness' (Adler et al., 2016, p. 8).*

Voogt et al. (2014) in a recent review of the literature involving risky driving in young adults conclude that:

- *'Improved deterrence-based interventions are likely to have only a limited effect in reducing risky driving generally.*
- *Targeted interventions across a multitude of domains are recommended.*
- *As therapeutic interventions have been found to be effective in reducing adolescent reoffending generally, there are grounds to suggest that such programs could also be effective for hazardous drivers.*
- *Therapeutic programs that draw on the methods of cognitive behavioural therapy will allow the targeting of interventions to the wide range of needs of young offenders.*
- *Targeted intervention programs are likely to form part of a broader strategy to reduce re-offending in dangerous drivers*
- *As unsafe drivers demonstrate similar criminogenic needs to other offender types for which the RNR model has demonstrated effectiveness, there is a strong rationale for the development of comparable programs for hazardous drivers.*
- *Cognitive behavioural interventions targeting identified criminogenic needs have considerable potential to reduce adolescent risky driving and improve general safety for all road users, when used in conjunction with deterrence- and prevention based approaches' (Voogt et al., 2014, p. 55-56).*

Driver Education and Rehabilitation Interventions

Driver Interventions can cover a wide range of initiatives from licence sanctions, warning letters and demerit points through to education programmes. Four basic types of driver intervention programmes can be identified from the literature review:

- Those that involve short classroom/home education responses
- Those that involve some 'in-vehicle' driver training
- Those that are longer term programmes that utilise multiple components. These could also be classified as 'rehabilitation programmes' (usually targeting drink/drug drivers)
- Technological responses (e.g. alcohol interlocks)

The following will provide some information on the education/training/rehabilitation interventions with regard to our focus on young drivers. The literature review identified no international meta-analytical research on any interventions specifically for young drivers; but one rehabilitation type programme, with evaluation information, was identified. Also identified were four key pieces of research involving literature reviews and best practice observations of driver intervention programmes (Clark et al., 2015b; Clark & Edquist, 2012; Oxley et al., 2014; Wundersitz & Hutchinson 2006). All of these papers refer to a meta-analysis of the driver improvement literature carried out by Masten & Peck (2004).

Masten and Peck 2004. 'Problem driver remediation: A meta-analysis of the driver improvement literature'.

Whilst the Masten and Peck (2004) meta-analysis does not specifically cover young drivers, I believe; as did Wundersitz & Hutchinson (2006, p. 8), that it is a good starting point. The review was an extensive study of driver improvement interventions that involved 35 studies and 106 individual interventions, the majority of which had been involved in a previous study undertaken in 1989 (Struckman-Johnson et al., 1989).

Masten and Peck (2004) identified these 35 studies as being methodically sound. Clark & Edquist (2012) reported that '*Methodologically sound*' involved the use of four criteria in the Masten and Peck (2004) meta-analysis. These were:

- '*Samples based on drivers who had committed offences (not just belonging to a high-risk group) and excluded those who had received treatment based solely on drink driving offences.*
- '*A control group who received no or minimal treatment (i.e. brochure) were used as a comparison.*
- '*The outcome measures included both crash and subsequent traffic offences.*
- '*Used a randomised experimental design*' (Clark & Edquist, 2012, p. 11).

The interventions covered in the Masten and Peck (2004) review were not limited to education programmes but involved:

- Warning Letters
- Information brochures
- Individual counselling
- Group education meetings

- Demerit points
- Licence sanctions (suspension, disqualification)

Masten and Peck (2004) related driver improvement interventions to decreases in crashes and offences, with the outcome effect relative to the type and intrusiveness of the intervention, as observed by Wundersitz & Hutchinson (2006, p.8). Licence disqualification had the greatest effect with all other interventions having varying degrees of efficacy or no effect at all. Masten & Peck (2004) reported that:

'License suspensions and revocations by far were associated with the largest violation reductions, followed by license probation, individual meetings, group meetings, point reduction incentives, warning letters, and 'other' interventions' (Masten & Peck, 2004, p. 22).

Masten and Peck (2004) commented on the observed greater effect of licence suspension:

'Since one of the objectives of license suspension/revocation is to eliminate driving for the period of suspension, it is possible that much or all of the effect is due to reduced exposure and/or more careful driving during the suspension interval' (Masten & Peck, 2004, p. 1).

Overall regarding the Masten and Peck study, Wundersitz & Hutchinson (2006) reported a:

- 6% decrease in crashes for all treated drivers
- 17% decrease for licence suspension treatment
- 5% improvement for group meetings

Ker, Roberts, Collier, Beyer, Bunn, and Frost (2005). 'Post-license driver education for the prevention of road traffic crashes: a systematic review of randomized controlled trials'.

The Ker et al. (2005) study involved 24 intervention trials and was undertaken to quantify the effectiveness of post-licence driver education for reducing road traffic crashes. Four of the trials involved advanced driver education and the remaining 20 trials studied remedial driver education. The criteria for inclusion were trials that were:

- Randomised control trials
- Post-licence education interventions versus no education or versus another type of intervention
- Outcome measured by; traffic offences, traffic crashes, or injury crashes

The authors did not include driving skills as an outcome measure as they report:

'..we could not be certain that there was a direct relationship between improvements in driving skills and reduced risk of road traffic crashes' (Ker et al., 2005, p. 3).

As with the Masten & Peck (2004) study the Ker et al. (2005) study is not specific to young drivers and included only one trial involving young drivers between 18-24 year olds (Nolen 2002, as cited in Ker et al., 2005).

The authors found three distinct varieties of education that were included in their analysis. These were:

- **‘Correspondence education.** Programmes were considered to be ‘correspondence education’ if they did not involve direct contact with an instructor. Educational information was usually contained within a manual or letter sent to drivers.
- **Group education.** Programmes were classed as ‘group education’ if information was delivered to a group of drivers, hence the content was not designed around the requirement of an individual participant. These generally took the form of one or more pre-organised sessions led by an instructor.
- **Individual education.** Programmes were classed as ‘individual education’ if they consisted of a session in which the participating driver received education delivered on a one-on one basis with an instructor. The content of the information given could often be geared to suit the specific requirements of the driver attending’ (Ker et al., 2005, p. 5).

The authors found that no significant reductions in crashes, or injury crashes but did report a small reduction in detected traffic re-offending. The authors concluded that:

‘This systematic review of randomised controlled trials provides no evidence that post-licence driver education programmes are effective in preventing road traffic injuries or crashes. Although the results are compatible with a small reduction in the occurrence of traffic offences, this may be due to publication or other selection biases, or else to bias in the included trials. Because of the large number of randomised participants included in the meta-analysis (close to 300,000 for some outcomes), we can exclude, with reasonable precision, the possibility of even modest benefits’ (Ker et al., 2005, p. 8-9).

International Young Driver Interventions

This review identified several programmes/initiatives that could be considered alternative but most were either not evaluated or the evaluations showed no positive effect or did not meet the evaluation criteria set out in Section 1. The literature review identified one international driver intervention programme that had been evaluated according to the aforementioned evaluation criteria. The following information is based on previous evaluations, as well as including comment from a stakeholder involved in the programme.

The Blacktown Traffic Offenders Programme

The *Blacktown Traffic Offenders Programme* (TOP) is one of many TOP programmes run in New South Wales (NSW), Australia. It is however the only TOP that has been evaluated. It is worth noting that the Blacktown TOP has also been included in previous literature reviews regarding youth traffic offender interventions (Wundersitz & Hutchinson, 2006; Clark & Edquist, 2012).

As at January 2013, there were three approved providers conducting TOIP³⁴ courses at over 50 locations (towns and suburbs) across NSW (NSW Attorney General’s Department, 2013).

The Blacktown Traffic Offenders Programme is a pre-sentencing educational programme with the intention of educating traffic offenders to change their attitudes and driving behaviours. Blacktown TOP has been run every year since it was implemented in 1992 (Bamford et al., 2011). The Blacktown TOP

³⁴ In the literature review the titles TOP and TOIP were used to describe the programme in the documents identified by the review.

programme is provided free of charge, therefore making the programme accessible to all offenders regardless of their financial circumstances (Clark & Edquist, 2012, p. 12).

The Blacktown TOP is regulated under Part 8 of the Criminal Procedure Regulation 2010. The programme runs for 6-8 weeks and involves traffic offenders attending a 2 hour group session each week for the duration of the programme. The courses are usually run by non-government agencies such as the *Police Citizens Youth Club* (PCYC) (Rourke & Jones, 2012). The programme incorporates Police officers, emergency service workers and volunteer presenters (Clark & Edquist, 2012, p. 12). At the end of a course, a report is provided to the magistrate detailing the offender's participation and progress, which the magistrate may take into consideration when sentencing the offender.

The age of the participants of TOIPs range from under eighteen to eighty. In 2011 a large percentage of the participants of the Blacktown TOP were under 24, with the percentages broken down as follows:

- Under 18 - 2%
- 18-19 – 10%
- 20-24 – 27%

In 2011 drink driving offences were reported as being the most frequent referral offence (NSW Attorney General's Department, 2013).

Content

The current Blacktown TOP programme provides a knowledge base and identifies skills, that can be easily practised, which have the potential to result in offenders having the knowledge and skills to make better and informed decisions. The programme also addresses the need to better plan for circumstances where risky behaviour might occur. The programme is conducted over eight weeks. Over the first seven weeks, the programme is designed to allow offenders to:

- Build knowledge over time
- Identify and discuss skills that can be practised outside of the programme
- Provide time for reflection and further self-evaluation about personal beliefs before returning to Court
- Provide opportunities to experience the repetition of key messages
- Utilise the experience and varying communication styles of several presenters

It is reported of the programme content that:

'Discussions include challenging the reasoning (or the lack of reasoning) behind the decisions that ultimately led to attendance at our programme. The programme concludes with an 8th week requiring attendance to hand in final assignments (including the Completion Summary), and an individual discussion, if required, about an offender's return to Court for sentencing. Conceptually, the programme is shifting from a focus on road safety/driver education approaches towards offender management/rehabilitation as applied to the use of the road transport system and to risky driving. The programme is strongly influenced by concepts from the Risks-Needs-Responsivity (RNR) Model used in

correctional settings, concepts from situational crime prevention, and by aspects of late modern crime theory (e.g., the routine activities focus)' (Faulks, 2016).³⁵

Evaluation

An evaluation (Saffron et al., 1999, cited in Rourke & Jones, 2012) found 'selection bias' in a randomly selected, control group used for the evaluation. The control group consisted of offenders whose Court matter was finalised at about the same time as the TOP offenders. Whilst those offenders who participated in the TOP programme were found to have the probability of re-offending reduced by 25%, this selection bias, involving then control group being unmatched in terms of re-offending risk, could not be ruled out as impacting on these results (NSW Attorney General's Department, 2013). Rourke and Jones (2012) provided a profile of TOPs programme participants and examined the risk factors associated with re-offending. Their study found that:

'Fifteen per cent of participants committed a new offence in the 2 years following program commencement, and 11 per cent committed a further traffic offence. Being male, aged between 16 and 20 years, Indigenous, having a prior criminal record, and having 3 or more concurrent offences were all associated with an increased risk of being convicted for any further offence. Being aged between 16 and 20 years, living in more disadvantaged areas, having a prior criminal record, and having 3 or more concurrent offences were associated with an increased likelihood of being convicted for a new traffic offence. Approximately two-thirds of offenders who present with 4 or more risk factors go on to commit any new offence and one-third commit a new traffic offence' (Rourke & Jones, 2012, p. 1).

Rourke and Jones (2012) also comment that:

'..a small group of offenders are at a very high risk of returning to court and they might benefit from more intensive intervention' (Rourke & Jones, 2012, p. 8).

³⁵ Correspondence with I. Faulks.

Section 4

New Zealand Youth Traffic Offender Interventions

The following information on New Zealand alternative interventions was kindly provided by the organisers or coordinators of those interventions. The following interventions are either already in place or have been recently implemented. All the following interventions have referral pathways from the NZ Police, Court or Department of Corrections.

The Right Track Programme³⁶

The Right Track Programme was conceived by Eduk8³⁷. It is facilitated and managed by experienced personnel with a broad array of teaching and learning methodology. The core presenters have been involved for ten years with the delivery of the programme. Participants range from 15-24 years of age.

The Referral process is managed by Eduk8 in conjunction with District/Youth Court Judges, NZ Police, Ministry of Social Welfare Child Youth and Families (CYF's) staff and any other stakeholders identified as relevant. A Referral form is completed and contains all necessary data, including previous criminal/traffic offending, current offending, and personal information. From this referral Eduk8 contacts the learner³⁸ and Whānau to discuss the programme and programme requirements and then selects participants accordingly. All stakeholders are informed of the decisions made and 'kept in the loop' via email throughout the referral process and programme participation. Any issues that may arise in terms of attendance are dealt with by the stakeholders involved, in an attempt to ensure that any barriers to participating are removed.

Offences leading to referral include:

- Unlawful taking/Getting into/ Interfering with motor vehicle
- Careless/Reckless/Dangerous driving
- Failing to stop for red and blue flashing lights
- Sustained loss of traction
- Participation in display of acceleration/racing
- Excess breath alcohol
- Driving while disqualified/Without licence/Breach of licence/Outside terms of licence.

The range of participants include:

- Those that have yet to be 'caught' but have drawn the attention of others
- First time offenders particularly with Excess Breath Alcohol (EBA), Careless use of a vehicle, Sustained Loss of Traction (SLT), etc.
- Repeat Excess Breath Alcohol (EBA) offenders
- Those that have multiple driving offences

³⁶ Information supplied by stakeholders.

³⁷ Eduk8 is a New Zealand registered charitable trust.

³⁸ 'Learner' is the term used for participants of the programme.

- Those who have a number of driving offences and also a significant criminal offending history with burglary, anti-social behaviours, theft, etc.
- A small number of young people that have been involved in dangerous driving causing injury and/or death.

The providers inform that the programme:

‘Embodies awareness, decision making, builds learner confidence and resilience towards external behavioural forces (including immediate Whānau and peer group influence), exposes the participants to the consequences of actions and resultant ripple effects, encourages positive reinforcement of learnt behaviours, provides multiple opportunities to learn and empower the participant and provides a range of stimuli and circumstances through which these effects can be experienced including real life scenarios, practical risk management and experiential learning’.

Participants are encouraged at all times to actively participate in discussion, presentations and activities by Eduk8. Each session is learner and supporter evaluated by way of written evaluations included within the Learner Workbook. The Evaluations are circulated to a wider stakeholder group to keep all those concerned, involved and informed of the process and perspectives of participants.

The key components of the programme include:

- A comprehensive, consistent approach from Referral to Graduation
- Valuing the contribution of participants
- Involving Whānau /support people in all sessions
- Non-judgmental approach
- Focus on the learners
- Multi-dimensional learning strategies
- Involvement over a period of four to six weeks
- Forty hours of programme time
- Presentations that are relevant, engaging, interesting, varied, challenging, practical and active
- Variety in teaching styles and methodologies
- An effective learner/supporter evaluation component
- A caring, learner centered learning environment

Content

The Right Track follows a path of sequential, progressive sessions over a four to six week period. Each session has a particular theme that is connected to the overall message, with each component building on the previous and culminating in a successful Graduation. Typically the programme contains forty hours of contact time.

The providers inform that:

‘The programme is a multi-faceted, developmental learning experience featuring an interactive delivery approach that challenges participants thinking, previous misconceptions and beliefs. It incorporates the practices of multi systemic therapy and cognitive learning development by providing a range of sequential learning experiences with a multi-dimensional delivery style. The variation of presentation

styles, approaches and techniques all convey connected and similar messages. The messages are consistent and enable the learners to view the information from various angles engaging them actively in the learning process’.

Desired Outcomes

- Challenge preconceived ideas regarding driving offending
- Challenge behavioural constructs that have been developed in the young person through immediate environmental, social and familial influences
- Provide the young person and their support personnel with an opportunity to engage, think and learn
- To create a positive environment through which the young person can decide to make wiser choices
- To reduce re-offending – directly within the arena of driving offending and indirectly within a wider concept of antisocial behaviour leading to further criminogenic offending
- Promote improved open and honest communication within the family providing greater opportunity to understand the importance of communication and planning to decrease the possibility of further offending
- Develop greater empathetic understanding and awareness that provides the young person with an opportunity to address behaviours that impact on themselves and others in a negative manner
- Provide the tools that the young person can use in future life to identify, minimise and manage risk in a variety of environments
- Develop short term strategies for immediate issues that have long term, residual impact
- Develop self-confidence and resilience enabling the young person to successfully negotiate situations that could otherwise be risky and negative
- Empower the young person to choose a different positive pathway
- Decrease the opportunity to engage in behaviours that have tragic consequences.

Evaluation

Programme evaluation is by anecdotal evidence from ongoing learner/supporter evaluations, speeches at Graduation, observations from presenters and observers and an overall programme evaluation written by participants. The empirical outcome evaluation is based on participant re-offending data and is conducted by independent NZ Police personnel. This is undertaken on a two yearly basis and tracks the participants through the justice system to observe re-offending rates, providing an analysis of behaviours pre and post programme. To date there are two evaluations available. Both evaluations report on re-offending for at least 1 year post programme (New Zealand Police, 2010; New Zealand Police 2013) and both report significant, reductions in re-offending post programme. The 2013 evaluation reports that:

‘Over the last two years 210 young people have graduated from this programme. In 2011 their offending rate has reduced from 818 total offences before the course to 293 offences over a two year period and from 981 offences in 2012 to only 113 offences, a reduction of 62 % & 88% respectively’ (New Zealand Police 2013, p. 6).

These evaluations are 'before and after' studies and do not involve a closely matched control group.

Ready for the Road - Youth Responsible Driver Programme³⁹

The Ready for the Road (RFTR) is a brief intensive therapy intervention for young people (16-18); currently prioritised to participate are youth who have a history of offending and who are currently unlicensed, as this is the programme's prime target group. The programme has been designed by the Harmony Trust.⁴⁰ The main kaupapa⁴¹ of this programme is to engage with 'youth at risk', to work through psychosocial issues and barriers that contribute to illegal and unsafe use of a motor vehicle, then to assist group members to learn the Road Code (and develop safe driving habits) and to sit and pass their Learner's licence. The goals are to raise awareness of driver responsibility and road safety and reduce driving related recidivism, with the outcomes to contribute to reducing youth crime and re-offending rates and reduce barriers to progress through the Graduated Driver Licence System (i.e. through Learner, Restricted and Full licence).

The key approach in this programme is group therapy. Group therapy is used to address: attitudes to authority, the law, and the factors behind drink and drug driving, angry driving, and also to develop responsible and safe road use. RFTR is designed to effect change in attitudes and behaviour over a 20 hour intensive group programme that is conducted in 4 hour sessions over 5 days.

Content

Part One (10 hours) is the intensive therapy part facilitated in a workshop style over 2.5 days, and Part Two (10 hours) has a focus on learning the Road Code with the goal of passing the Learner's test (2.5 days). The group ideally works with 8-10 young people at a time. It is designed to be conducted at a community venue, ideally a Marae⁴², with a group room large enough for 20 people maximum (with Whānau support).

The target group is 16-18 year olds who have committed licensing breaches and other traffic violations. It is expected that these individuals will not be licenced yet but be somewhat motivated to engage in the graduated licensing process. The key features of the programme are:

- The skilled application of group education and therapy in creating an emotional experience
- The ability to work with Whānau and family systems within the group
- The ability to have an impact, to create the necessary discomfort to stimulate change yet offer support, belonging and self-efficacy
- CBT based planning and behavioural change
- Promoting victim empathy, identifying and challenging problem attitudes and risk taking behaviour
- Developing a safe driving focused peer group

³⁹ Information supplied by stakeholders.

⁴⁰ The Harmony Trust is a registered charitable trust operating in the Auckland area.

⁴¹ Kaupapa means principles and ideas which act as a base or foundation for action. A kaupapa is a set of values, principles and plans which people have agreed on as a foundation for their actions.

⁴² A marae is a fenced-in complex of carved buildings and grounds that belongs to a particular iwi (tribe), hapū (sub tribe) or whānau (family). Māori people see their marae as tūrangawaewae - their place to stand and belong. Marae are used for meetings, celebrations, funerals, educational workshops and other important tribal events.

- Improving attitudes towards driving behaviour, safe choices, and avoiding licensing breaches
- Successful engagement with Maori and Pacific people i.e. Maori and Pacific Group Leaders
- Addressing co-existing issues as they emerge
- Growing up and taking responsibility-assertiveness
- Moral development - i.e. choices between 'right and wrong', youth offending behaviours- 'wrong' side of the law, evading police (sneaking)
- Studying the Road Code with the goal of passing Learner's licence
- Focus on the rewards of having a licence - self-esteem/less sneaking; social acceptance; employment opportunities
- Brief intensive intervention style to assist with engagement, impact, plus attendance and completion rates.

Referrals are made through Police or CYFs or social workers who have an established relationship with the young person. The only possible exclusions to referral would be mental health or emotional issues that would affect engagement, attentiveness, or relationships with others in group (i.e. psychosis, violence, etc.). A one hour assessment interview is mandatory as a warm up to group therapy sessions and to assess motivation to change, personality, risk of unsafe driving, alcohol and drug use, and communication skills.

Attendance at RFTR involves developing and drawing on a relationship with a responsible adult or mentor (who may be a parent/caregiver or community member). This person acts as a point of reference, guide and role model in supporting changes and consents to 'contract' to attend particular sessions. The group focus is on developing a working relationship with adult supports, parents or guardians, in order to support and strengthen the young person's position, as well as their potential to engage in more positive behaviour 'at home' and 'other environments'. The mentor is expected to attend the final session to acknowledge the achievement of the young person involved. The group also focuses on developing positive relationships with the police and other law enforcement agencies.

Desired Outcomes

The first objective is to engage effectively with young people. This means creating a unique and engaging programme, this is assisted through including passionate group leaders. It initially involves effective engagement with referrers (police, CYFs, social workers) through meetings and presentations, to support connecting with youth who may be 'difficult to engage'. The programme is designed to be interesting, rewarding, but also challenging and searching.

The second objective is in effecting change in the young people, in terms of thinking and behaviour aimed towards developing responsible driving attitudes and behaviours. This includes safer use of alcohol, avoiding drinking and driving, safe driving practices, and reduction in offending behaviours. The programme providers inform that:

'Our intention is that through initiating change with individuals and small groups we can start to have an influence on collective attitudes and beliefs in society, i.e. the 'norms', and thus social change'.

There a number of specific objectives for the Ready for the Road Youth Programme:

During programme to 6 months post-program

- sufficient attendance at programme
- change in attitudes to high risk driving
- higher Learner licence pass rates
- lower rates of offending.

Medium term (1 year)

- Reduction in EBA (Excess Breath Alcohol) rates on group graduates, where there is a history of drink driving
- Higher number of young people to progress through Learner period to gain a Restricted licence
- Lower rates of offending among graduates.

Long term (2 years)

- Reduction in crash rates in target groups/areas.

Evaluation

There is an evaluation framework in place for the RFTR programme but as this programme has only been running for a few months there is no evaluation information currently available.

The Behind the Wheel Māngere - Young Driver Signature Programme⁴³

The Behind the Wheel (BTW) Māngere - Young Driver Signature Programme (MYDP) is the first Young Drivers Signature Project to be rolled out in New Zealand. The project is a jointly-led ACC and NZTA project, co-funded by Auckland Transport, to help support at-risk young people to become safe and fully licensed drivers. The first (urban) pathfinder for this project is based in Māngere. This programme is not specific to traffic offenders but does have a referral path from the Police through the use of traffic compliance. This programme is also not specific to youth.

The key principles behind the design and delivery of the MYDP are to work in partnership, to build consistency and continuity of support, and to build on what is currently available locally.

The project has adopted a multi-agency, collaborative approach in order to achieve the greatest collective impact across the community. This includes engaging with Government partners: Police, Ministry of Education, Ministry of Social Development, and Auckland Transport, as well as the local community and education sector (for example, school run Learner and Restricted programmes within their school). A parents' workshop may also be delivered in a school as part of a strand aiming to engage with parents.

The project consists of initiatives focused on: increasing support, removing barriers, and increasing the progression of people through the driver licence process.

⁴³ Information supplied by stakeholders.

Content

The project is not a simple driver licence referral system but rather aimed at making people of Māngere safe and licensed through community capacity building, changing social norms, a holistic Whānau based approach, and utilising the community's strengths. It is based on a collective impact framework – which involves many agencies and organisations working together in the community doing their respective parts. Engagement can occur anywhere along the licence stage, but it may actually be a different organisation delivering – but all using the BTW resources and framework. The providers inform that:

'In terms of the customer journey a young (or old) person could engage with the project at multiple points, one of which is they could be referred by Police or Corrections. What happens next depends on where they are on their journey. Those that register a pledge team will get a registration pack and then ongoing texts/emails to encourage them on their journey and let them know about any activities'.

Those who attend a workshop get a follow-on session with a driving instructor who uses an assessment tool to gauge whether they are ready to sit the Restricted test, and if not, how far away from the standard they are.

Those who attended a workshop will often be re-engaged by the community centre/facilitator to get them to the next stage.

Desired Outcomes

- More young people pass their licence test at the first attempt
- More young people start on the licensing process and move to a Full licence within 3 years
- More young people get consistent and good quality education and training to help them become fully-licensed safe drivers
- More families/Whānau invest emotionally and financially in getting all young drivers licensed
- Better employment outcomes for young people who gain their Restricted or Full licence
- Reduce fatal and serious injury crashes among drivers in Māngere.

Evaluation

Whilst an evaluation framework is in place for the BTW, including a formative and process evaluation, no evaluation information is currently available.

The Community Driver Mentor Programme and the Community Driver Learner Programme⁴⁴

The Community Driver Mentor Program (CDMP) is a joint initiative between the New Zealand Transport Agency (NZTA), the NZ Automobile Association (NZAA), Caltex, and six communities throughout the New Zealand: Porirua, Te Kuiti, Gisborne, Christchurch, South Auckland and Whangarei. The NZTA and the NZAA developed the CDMP to address the barriers disadvantaged Learner drivers in the 16-24 age group were facing. This programme is also not specific to traffic offenders but does have a referral path from the Police through the use of traffic compliance.

The NZTA and NZAA also trialed a Community Learner Driver Programme (CLDP) in Waitomo. The CLDP aims to address the challenges many young people face when trying to get their Restricted licence and help them to develop safer driving behaviours (Moss et al., 2013).

⁴⁴ Information supplied by stakeholders.

The CLDP provides each learner with up to 20 hours of professional driver lessons from an NZAA Driving School Instructor. The professional driving instructor makes a judgment about the quantum of lessons required by each learner driver in order to sufficiently prepare them to sit their Restricted licence.

The extra practice needed to pass the test may be a barrier for some Learner drivers, such as:

- Learner drivers in rural areas
- Learner drivers without access to a suitable vehicle
- Learner drivers without access to an appropriate experienced driver to supervise their practice.

As a result, some Learner drivers are not progressing through the driver licensing system and are taking to the roads without the legal requirements or experience they need.

The programme is designed to enable local communities to help these young learners, who have already completed the Learner phase of their licence independently, to gain their Restricted licence and improve their levels of safe driving. It does this by providing experience:

- In a wide range of driving situations
- With an experienced trained mentor (CDMP) or licensed driving instructor (CLDP)
- In a registered and warranted vehicle.

For many, the programme also puts an end to driving related fines and opens the doors to further education, training and employment opportunities. The CDMP/CLDP can include a number of people and organisations but there are four key groups of people involved:

The community programme provider establishes and facilitates the programme, including coordinating all of the participants and timetables.

The mentors are volunteers who act as coaches supervising a range of practice driving experiences. They help the Learner drivers to think about their driving and how they need to manage the vehicle, and keep their focus on what they need to practice.

A driving instructor undertakes professional driving lessons for each Learner driver at useful points in the programme, identifying driving skills the Learner needs to improve on. The driving instructor also delivers a training session for the mentors before they start the programme.

The Learner drivers are recognised as the most important people in the whole programme. For them, this programme is aimed to be a positive life-changing event.

Content

The community programme provider manages a number of Learner drivers through a 12-week cycle. Each driver is allocated a volunteer mentor who is trained and supported by a professional driving instructor. The mentor supervises the Learner driver while they practice in a car provided through the programme. Each learner driver also has three professional driving lessons with a qualified driving instructor, which their volunteer mentor attends with them. The professional lessons occur at the beginning, middle and end of their program cycle, and are used to assess the learner's progress and readiness to sit their Restricted licence test. The first of these lessons includes an assessment of the learner driver, identifying their individual driving development needs. Following this first lesson, the

learner driver completes 10 hours of driving practice, supervised by their mentor. The driving instructor then provides a second lesson to check the learner driver's progress and advise them on next steps. In the final stage of the programme, after 30 hours of driving practice, the learner driver has a third lesson with the instructor during which the instructor re-assesses their driving skills progress. They then advise the learner driver and mentor regarding the skills to focus on during any further driving practice hours, before their Restricted driving licence test. Ideally each learner driver should aim to have 120 hours of supervised driving practice before sitting the test. Learner drivers need to arrange some supervised practice with their family to build up to the total of 120 hours.

Desired Outcomes

- To address issues of disadvantage for Learner drivers in the 16–24 age group seeking to get their Restricted licences, such as access to suitable vehicles, mentors and practice
- To improve levels of safe driving for these Learner drivers.

Evaluation

A process evaluation was carried out on both the CDLP and CMDP in 2013 (Moss et al., 2013). With regards to the outcomes, the evaluation reported that:

'Both pilots were effective in achieving their objectives. Evidence shows that learner drivers:

- *Developed improved driving skills, as assessed by AA Driving School instructors across 23 specific skill areas*
- *Gained Restricted licences at an equivalent pass rate to the general population of learner drivers in the same age group*
- *Benefited from wider outcomes including improved confidence, social skills and employment opportunities' (Moss et al., 2013, p. 4).*

The evaluation also reported on the processes involved informing that:

'Pilot implementation, management and delivery were highly effective. In particular:

- *Pilots were implemented effectively including establishment of the necessary systems, processes, documentation and personnel*
- *Participants (including providers, mentors, driving instructors, and funders) were highly committed to the programme and believed strongly in its cause. They went over and above what was asked of them to achieve successful outcomes*
- *Learner drivers were generally highly engaged in the programme, had positive relationships with mentors/instructors, and found the programme was relevant and effective for them*
- *Providers adapted their approach in response to emergent issues to support achievement of pilot objectives' (Moss et al., 2013, p. 5).*

Section 5

Technology and Online Interventions

The literature review revealed an array of technological or web based component interventions, though none were identified that were exclusive to young drivers in the age groups 14-19 years. Foremost amongst the technological responses were alcohol ignition interlocks.

Alcohol ignition interlocks

Alcohol ignition interlocks are devices fitted to the ignition of a motor vehicle that require a breath sample, either clear of alcohol or containing a very low level of alcohol, before the ignition will engage.

Previous research has reported that ignition interlocks are associated with substantial reductions in attempted instances of drink driving, ranging from 50 percent to 90 percent reductions while the interlock is installed in the vehicle. These results come from several peer-reviewed studies and a meta-analysis examining the effectiveness of interlocks (Bailey et al., 2013; Coben & Larkin, 1999; Elder et al., 2011; Tippetts & Voas, 1997; Voas & Marques, 2003; Vezina, 2002; Willis et al., 2005). Also reported are positive health-care effects for those on an interlock programme (Bjerre et al., 2007).

It has been reported, in Australia, that if all newly registered vehicles were fitted with alcohol ignition interlocks it could result in reductions of up to 24% of all fatalities and 11% of all serious injuries each year (Sensserick, 2015).

In New Zealand the alcohol ignition interlock has been available as a sentencing option for certain offenders/offences since 2011. A review of the programme in its first year identified several problem areas with the programme (Waters, 2013). The New Zealand Government is currently considering significant changes to the NZ programme (Ministry of Transport, 2016). These considerations include making the alcohol ignition programme the mandatory sentence for repeat and high level drink drivers and also providing funding for those without adequate means to install and comply with the programme requirements (e.g. calibration, data downloads).

Alcohol ignition interlocks are internationally recognised for their success in reducing instances of drink driving whilst they are fitted to a vehicle. More recent research from Australia has shown that even after removal, for first time detected and young drivers, detected re-offending rates decline. As reported in the latest VicRoads research:

‘For the young and high level first-time drink-drivers in this study it appears that alcohol interlocks had more than a purely incapacitating effect (i.e. preventing the vehicle from starting if the driver has been drinking), as the impact of the alcohol interlocks on drink-driving remained after the device was removed. This is unusual, as other evaluations generally report that re-offence rates return to pre-installation levels after alcohol interlock removal’ (VicRoads, 2016, p. 17).

Other Technologies

Whilst not a primary focus of this paper it is worth mentioning technologies that have been employed or trialed and are an emerging response for all drivers, either by way of remediation or utilised as a safety measure. These are collectively referred to as in-vehicle intelligent transport systems (ITS).

Intelligent Speed Adaptation (ISA)

ISA is a generic term used for a class of ITS which involves either:

- Providing feedback to the driver when the speed limit is exceeded
- Limits the speed of a vehicle as a result of failure to comply with proscribed speed limits in place

A report on the Development of a Best Practice Intervention Model for Recidivist Speeding Offenders Styles et al., (2009) reported of ISA and In Vehicle Data Recorders (IVDRs) that:

'Programmes using IVDRs and programmes using ISA have both been successful in reducing unsafe driving' (Styles et al., 2009, p. i).

In 2010 VicRoads commenced a trial, known as the Repeat Speeders Trial (RST), to test and evaluate two interventions to assist Victorian recidivist speeders to reduce speeding. The first intervention was an advisory Intelligent Speed Adaptation (ISA) system, while the second involved drivers attending a two-part behavioural intervention (BI) programme. The results of this trial were reported by Young et al., (2013). The authors concluded that

'The results of the BI surveys provide evidence that, at least in the short-term, completing the speed behaviour program increased repeat speeders' knowledge of the dangers of speeding, improved their attitudes towards speeding and other driving behaviours in general, and led to improvements in their self-reported speeding behaviour' (Young et al., 2013, p. 106).

The authors however put forward the following caveat regarding the survey results:

'The effectiveness of the speed behaviour programme was evaluated in terms of self-reported attitudes and behaviour. It is not clear if the benefits of completing the programme would extend to actual behaviour as measured through, for example, crash involvement and the receipt of speeding offences in the months after programme completion' (Young et al., 2013, p. 114)

The authors reported that ISA was effective for all recidivist offenders, but when ISA is removed its effectiveness in reducing crash risk is not maintained (Young et al., 2013, p. 95)

Teen Driver Support System (TDSS)

Again although not an offender based initiative the TDSS is a smartphone based system that provides real-time, in-vehicle feedback to teens about their risky behaviours—and reports the behaviours to parents via text message if teens don't heed the system's warnings. The TDSS provides geographically specific, real time feedback to a teen driver at the time unsafe driving behaviour occurs so that behaviours can be immediately corrected. An evaluation (Creaser et al., 2015) of the TDSS reported that:

'Research results indicate an overall safety benefit of TDSS, demonstrating that in-vehicle monitoring and driver alerts, coupled with parental notifications, is a meaningful intervention to reduce the frequency of risky driving behaviors that are correlated with novice teen driver crashes. In particular, the system was shown to be an effective strategy for reducing excessive speeds when used with parental feedback and potentially even without parental involvement' (Creaser et al., 2015, p. i).

Active Accelerator Pedal (AAP)

AAP fitted vehicles enable the driver to encounter added accelerator pedal resistance or *'haptic feedback'* when they exceed a pre-set speed. Blomberg et al., (2015) describe the AAP as follows:

'The AAP can impose a differential force schedule to the accelerator pedal as a function of the extent of the driver's speeding. Although drivers can easily and safely override the system by pressing harder (e.g., to pass, to avoid a crash), the concept of the AAP is that it is uncomfortable to maintain an override for sustained periods of time. The added force also represents a cue to the driver that he or she has exceeded the speed limit' (Blomberg et al., 2015, p. 1).

AAP technology was also reported favourably when employed in tackling seatbelt usage compliance (van houten et al., 2011). The review identified further information on the use of technology for seat belt fastening compliance by way of seat belt interlocks. Seat belt interlocks require the seat belt to be fastened for the car to either start or enable the car to be driven without speed or gear restrictions (Searson & Anderson, 2013). The authors of this study concluded that:

'..it is arguable that the introduction of interlocks should be encouraged – the delay between introduction and benefit only underscores the desirability of accelerating such technologies into the fleet. Other means of 'fast-tracking' seat belt interlocks to those who are at high risk could also be considered, as after-market installation may be an option for many cars currently on the road' (Searson & Anderson, 2013, p. 10).

On-line interventions

The development of information technology has allowed for the use of driver education initiatives to be delivered at home with the suggestion that this approach could increase compliance (Wahlberg, 2013). As well as increased compliance other factors that could increase the desirability of this approach include:

- Cost effectiveness
- Access
- Autonomy, self-paced learning
- Social acceptability
- Interactive tailored learning
- Privacy and anonymity.

It is noted however that due to the anonymity of the participants there is no guarantee that it will actually be the offender who undertakes the online intervention (Wilson 2015).

It is reported that online interventions have had promising outcomes in regards to reducing risky behaviours including alcohol use (Kypri et al., 2008; Paschall et al., 2011; Wilson, 2015). The following are some examples identified in the review that have either some or no evaluation information available. Whilst the area of e-learning strategies to address risky driving are in their infancy, by comparison to other related fields such as interlocks and drink driver rehabilitation, information on this developing field has been included to inform on the technological advancements available in this emerging area.

The Steering Clear First Offender Drink Driving Programme

The Steering Clear First Offender Drink Driving Programme is a novel online intervention programme aimed at reducing re-offending by first offender drink drivers but not specifically for young drivers.

The programme content is based on previous research into the behaviour of first offender drink drivers and the factors that lead to re-offending following a conviction (Wilson, 2015). The programme has 5 core modules:

- Standard drinks
- Alcohol and the body
- Consequences of drink driving
- Planning ahead
- Your alcohol use.

The programme utilises an evaluation (questionnaire) module plus an automated follow up email with a certificate of completion. The programme has some initial pilot data suggesting that that the programme is usable and offenders are finding the programme to be a positive learning experience (Wilson, 2015).

E-Learning Seatbelt Wearing Intervention

Another e-learning initiative, which has been evaluated, is a seatbelt wearing intervention in the United Kingdom. The intervention provides an educational alternative to prosecution. It is designed to explain why it is important for you to wear a seatbelt. The initiative is not aimed specifically at young offenders. The intervention involved two parts, an online module and an online questionnaire taken 3 months after the module.

The on-line module consisted of around twenty web pages, involving a scenario where the driver is in the car with friends, running late and has collided with another vehicle. The outcomes on a human body after the impact of a crash are described, with and without wearing a seatbelt. Also included were questions regarding how often and why the offender would wear a seat belt, and statistical information regarding the safety effect of seatbelts. The course participants could move backwards and forwards through the pages at their leisure. At the end of the module, there were fifteen assessment questions. The respondent was required to get ten of these questions right to pass the course (af Wåhlberg, 2013).

This programme, at least in the Thames Valley area, has been subjected to an evaluation on self-reported behaviours (af Wåhlberg, 2013). The author reports limitations with the evaluation but that:

'Given the limitations of the present study, as detailed, the results would still seem to indicate that at least some drivers' behavior can be changed in the short term, regarding their seat belt wearing, via an online improvement course' (af Wåhlberg, 2013, p. 9).

The Young Driver Scheme (YDS)

The Young Driver Scheme in the United Kingdom allows drivers the choice of participating in the scheme, based on user pays, but avoiding a higher fine and demerit points. The YDS was introduced in 2008 for drivers under the age of 25 years who are detected for a traffic offence in the Thames Valley area, by officer or camera. The drivers are offered a road safety education programme that is specific and tailored to this age group (af Wåhlberg, 2010).

The course features a workshop, attended by about 20 drivers, under the supervision of a driver trainer, where issues of safety are discussed. After this initial group meeting, each participant does five online modules of education and these are titled:

- Anatomy of a crash
- Attitude and Alertness
- Safety Margins
- Overtaking
- Anticipation and Hazard Perception.

The material is mostly visual and inter-active, using animated scenarios where the participants are driving and involved in some 'on road' incident. Participants also undertake an assessment regarding knowledge of the content presented (af Wåhlberg, 2010).

Evaluations (af Wåhlberg, 2010; af Wåhlberg 2011) involved self-reports, offences and penalty points (6 months post intervention). These evaluations reported that the YDS did result in self-reported behaviour change that was not present in the control groups used in the evaluation (those with fines or those attending a speed awareness scheme.⁴⁵) The author highlights many evaluation problems and comments on the use of self-reported crash data as being unreliable as well as commenting that the accrual of penalty points are not necessarily a good indicator of safe driving.

Youth and Information Communication Technology (ICT)

The rapid development of portable multimedia devices such as smartphones and tablets has made communication:

'..more attractive, accessible and flexible for adolescents' (Pullen et al., 2015, p. 101).

It has been reported that in the United States, cellphones, texting and email are the most common forms of communication, with the younger the person the more likely that these modes of communication will be preferred.⁴⁶ Lenhart (2015) reports that the majority of adolescents in the United States have access to a computer and a cell phone. Indeed it appears that:

'Today's youth are developing in a world in which very few individuals live a day without communicating through information and communication technology' (Babskie & Metzger, 2016, p. 2)

In New Zealand current communication strategies for young drivers regarding licensing, demerit point and fines information is achieved through mailed correspondence. The Driver Licence Register (DLR) can record email addresses and mobile numbers, but this is not a mandatory requirement. Currently the New Zealand Transport Agency does not have a system in place to send notices or reminders about driver licensing via email or text message. However, the NZ Transport Agency has been exploring new ways of communicating with customers across a range of services, including text reminders of licence expiry. A limited pilot was undertaken in 2015 on the use of text and email reminders for vehicle

⁴⁵ This scheme is aimed at 18 yr olds and over and has not been included in this review.

⁴⁶ Gallup poll involving ages 18 +. Available at <http://www.gallup.com/poll/179288/new-era-communication-americans.aspx> Last accessed, Oct 19, 2016.

relicensing which demonstrated a number of benefits.⁴⁷ Introducing this capability is on the NZTA'S programme, and is part of a staged rollout. In the near future the NZTA hopes to see the introduction of text reminders as part of the driver testing's scheduling and booking system.⁴⁸ That the New Zealand Transport Agency has been exploring new ways of communicating with customers is positive news considering the modern formats that young people may find most convenient, for example text messaging or email. These forms of communication should also be investigated by all other Government agencies involved in youth traffic offending, including the New Zealand Police.⁴⁹

⁴⁷ Information supplied through Reference Group.

⁴⁸ Ibid.

⁴⁹.With regards to the recommendation that communication be done via mobile phone/email, the Ministry of Justice (MoJ) informs that this is already in place in the district Courts (at least for many communications). The issue that prevents it occurring more (for the MoJ and others) is twofold:

1. Legislative (where the rules prevent an electronic message being sufficient to count as service). The rules for the district Courts have mostly been rewritten to allow for electronic methods.
- 2, Practical (agencies may not know either an email address or phone number, nor have any way of accessing it).

Section 6

Methodological Problem Areas of Evaluation

The evaluation and ongoing monitoring of programmes is vital to ensure that the desired outcomes are being achieved. Evaluation identifies the appropriateness of the intervention for the target population and will provide feedback on the programmes effectiveness. Evaluation will identify any problems that need to be rectified (Global Road Safety Partnership, 2007).

I feel it would not be an exaggeration to say that the majority of initiatives reviewed for this paper involved limitations due to evaluation, either through evaluation design or questioning of the reliability of the measures used for evaluation. Clark & Edquist (2012) explain the problems involved succinctly:

'While, as mentioned previously, traffic offender programmes are widely used both nationally and internationally to complement other sanctions options such as fines, penalties and license disqualification, there is mixed opinion within the road safety field about their effectiveness due to the lack of empirical support in identifying positive long-term effects. However, even the researchers conducting these evaluations frequently acknowledge limitations arising from methodological design issues. Commonly recognised methodological issues pertaining to these evaluations are: identification of valid outcome measures, universal definitions of recidivism, homo/heterogeneity of samples, identification and access to control groups, and data access from government agencies' (Clark & Edquist, 2012, p. 11).

Miller et al., (2014) report in their systematic review of the effectiveness of interventions for convicted DUI (Driving Under the Influence) offenders of drink driving interventions that:

'It is evident from the current review that there is a dearth of high quality evaluations of DUI interventions. The methodologies utilized across the studies were typically rated as weak, limiting the robustness of the conclusions that can be drawn' (Miller et al., 2014, p. 27).

A considerable limitation to previous research on evaluations of drink driver rehabilitation programmes is that it has been mainly based on the repeat offending rates of those who have completed a programme and/or their involvement in drink driving related crashes (Freeman et al, 2005). These objective measures would align with an evaluation guide (NHTSA, 2008) recommendation that:

'Wherever possible you should try to measure observable phenomena, things you can see and quantify' (NHTSA, 2008, p. 38).

Since most programmes are only part of an intervention, along with licence sanctions and other conditions imposed, re-offending rates may not reflect the effectiveness of a programme (Sheehan et al, 2005). A f Wählberg (2011) writes extensively on the problems of evaluation methodology and the use of control groups. He comments that due to the fact that all control groups used for evaluation purposes in driver improvement/education programmes would receive some sort of treatment; be it fines, demerit points or even the detection itself, then the programme or initiative is not being measured against its success in reducing risky driving behaviour or reducing re-offending but by comparison with these other interventions.

Low detection rates may also impact on the use of re-offending as an evaluation measure (Mills et al, 2008). However all previous evaluations, for example of drink driver rehabilitation programmes, throughout the world have at least involved the re-conviction rates of participants as a measure of achieving the desired outcome of stopping repeat offending (Fitts et al., 2012). It has been reported that in order to obtain a reasonable level of repeat offending records for statistical analysis, large samples and long follow-up periods are required (Foon, 1998) and research suggests that consideration of criminal history may be important when assessing the impact of intervention and treatment strategies for drink drivers (Nochajski et al., 1993).

The inclusion of self-report information on behaviours and attitudes has been brought into question regarding subjective biases such as social desirability bias (af Wåhlberg, 2011). Af Wåhlberg & Dorn (2015) comment on the use of other self-report information:

'Traffic safety researchers should treat the use of self-reported mileage, violations and crashes with extreme caution and investigate these variables with the use of objective data' (af Wåhlberg & Dorn, 2015, p. 2).

The lack of use of randomised control groups to evaluate the efficacy of driver education programs is reported by af Wåhlberg (2010). Rourke & Jones (2012) suggest this is because, if a programme is believed to be beneficial, it would be unethical to exclude people from such a programme. However Rourke & Jones (2012) suggest it could also be argued that:

'...it is unethical to provide a program when there is little evidence of its effectiveness and which could, in the worst case scenario, increase the risk of re-offending. The conditions required to evaluate program effectiveness need to be carefully considered prior to the widespread expansion of any program' (Rourke & Jones, 2012, p. 8).

Af Wåhlberg (2011) concludes that:

'The complexity of the problem of evaluating driver improvement courses is simply too great to be left to a single, unverified approach' (af Wåhlberg, 2011, p. 10).

Recent research (af Wåhlberg, 2016) has also called into question previous evaluations in other areas relevant to this research paper. The effectiveness of driver training has previously been shown to have little or negative impacts (eg, Mayhew & Simpson, 2002; Masten & Peck, 2004; Ker et al., 2005; Strathman, Kimpel & Leistner, 2007; Lonero, 2008; Roberts, Kwan & Cochrane Injuries Group Driver Education Reviewers, 2008; Peck, 2011) but af Wahlberg (2016) informs that:

'Turning to how improvement evaluations are usually undertaken, there exists one methodological problem which has not been discussed in the literature, and which would impact negatively upon the effects found. This concern the culpability for the crashes used in the evaluations. Usually, this is not taken into account, i.e. all crashes are used as dependent variable. This is problematic, because driver training and education aims to change the accident-causing behaviour of the driver. It does not aim to reduce the exposure to risk from being hit by other drivers by no fault of their own. Therefore, if all crashes are used as the dependent variable, this variable will contain a fair amount of error variance, which reflects amount of exposure and not the quality of driving behaviour.' (af Wåhlberg, 2016, p 3).

Similarly evaluations of the use of fear appeals have been reported as being non-effective or indeed to have the reverse effect from that desired.⁵⁰ However the most recent meta-analysis (Tannenbaum, 2015) of fear appeals, informs that:

'To conclude, fear appeals are effective, and the present synthesis organized and identified factors that make them even more effective. Specifically, fear appeals are particularly effective when the communication depicts relatively high amounts of fear, includes an efficacy message, and stresses severity and susceptibility related to the concerns being addressed. Fear appeals are also more effective when they recommend one-time only behaviors, self-esteem enhancing behaviors while mentioning death, self-esteem hindering behaviors while not mentioning death, or delayed behaviors while mentioning death. Finally, fear appeals are also more effective when the audience is comprised of mostly women, members of collectivist cultures, or college-aged adults in the early stages of change. I formed these conclusions by meta-analytically testing a wide variety of influential fear appeal theories using the largest and most comprehensive fear appeals database to date. I believe this analysis has provided a thorough overview of the state of the literature and also generated a variety of important and exciting future directions.' (Tannenbaum, 2015, p.55).

Screens and Assessment Tools

As reported previously as well as the use of empirical crash and offence data the use of baseline self-reported data is also desirable to:

- Gauge appropriateness of participant to an intervention
- Gather baseline data to measure attitudes and behaviour for baseline data pre-initiative
- Evaluate or record any changes post-initiative.

There are a multitude of screens, scales, and tools utilised to measure and record this information. Whilst the following is not an exhaustive list, with regards to our young drivers, the use of the following instruments were reported in the literature:

- The Driver Behaviour Questionnaire (DBQ) (Reason et al., 1990)
- Driver Attitude Questionnaire (DAQ) (Parker et al., 1996)
- Young Driver Attitude Scale (YDAS) (Malfetti, 1989)
- Behaviour of Young Novice Drivers Scale (BYNDS) (Scott-Parker et al., 2012)
- The Multidimensional Driving Style Inventory (MDSI) (Taubman-Ben-Ari et al., 2004)
- The Alcohol Use Disorders Identification Test (AUDIT) & AUDIT-C (AUDIT-Consumption) (Allen et al., 1997; Bergman & Källmén, 2002)
- Sensation Seeking Scale (SSS) (Zuckerman, 1994; Zuckerman, 2007).

⁵⁰ For further information see: https://education.nzta.govt.nz/_data/assets/pdf_file/0018/54801/What-doesnt-work-for-young-road-users-and-why.pdf Last accessed Jan 31, 2017.

As mentioned, one purpose of the initial screening and assessment is to verify the potential participants' suitability to the programme/initiative/intervention. The initial screening also provides the opportunity to gather baseline evaluation information including:

- Alcohol and other drug use
- Previous offending history
- Attitudes to drinking and driving, risky driving
- Family situation
- Information on family members attitudes to driving
- Employment status and/or training
- General health/mental health
- Motivation to change/ Motivation to engage
- Self-efficacy.

The use of the 'Readiness to Change Questionnaire' (RCQ) (Rollnick & Heather, 1992) or specific drink driving related screens, such as the modified RCQ 'Stages of Change for Drink Driving Questionnaire' (DRDV), have been proven to be reliable predictors of recent self-reported drink driving (Wells-Parker et al., 1998). However, it has been observed that the validity and reliability of the measurement tools, for example those used in drink driver rehabilitation, remain uncertain (Freeman et al., 2007). Af Wåhlberg (2010) suggests further work needs to be carried out regarding self-reporting measurement tools and their efficacy as screening tools.

A recent methodological re-meta-analysis of the DBQ as accident predictor (af Wåhlberg et al, 2015) reports that the validity of the DBQ is very low and that:

'Other driver behavior inventories should be treated with similar caution until meta-analysis and two-source studies have established their validity.' (af Wåhlberg et al, 2015, p.204).

A recent meta-analysis of real and method effects regarding personality versus traffic accidents (af Wahlberg et al, 2017) informs that when compared to other variables such as previous accidents, personality tests are weak predictors of traffic accident involvement.

The use of screens to measure self-efficacy (i.e. offenders' belief in their ability to succeed at changing their behaviour) would also provide a source of data for evaluation purposes. Research has noted that individuals with low self-efficacy may feel overwhelmed with treatment and feel unable to implement the strategies taught, due to a sense of their own incapability (Chambers et al., 2008).

Other aspects that could be taken into consideration to evaluate programme effectiveness include health, alcohol use, lifestyle and attitudinal changes (Ferguson et al., 1999). Programmes that have focused on addressing these types of lifestyle issues have been shown to have a positive effect overall (Wells-Parker et al., 1995).

The gathering of data for evaluation purposes requires post initiative participant follow-up. The follow-up process has been recognised to be a formidable challenge in the data gathering procedure for evaluation (Freeman, 2004).

Section 7

Literature on Best Practice Observations

With regards to best practice for youth traffic offender programmes, the review identified several key papers involving literature reviews and best practice observations of young driver intervention programmes (Clark et al., 2015b; Clark & Edquist, 2012; Oxley et al., 2014; Wundersitz & Hutchinson, 2006).⁵¹

South Australia's Driver Intervention Programme: Participant characteristics, best practice discussion and literature review. (Wundersitz & Hutchinson, 2006)

Wundersitz & Hutchinson (2006) reported of driver intervention programmes that, at least by 2006, the quality of empirical evidence available regarding the effectiveness of driver improvement programmes was poor and that they could not identify any programme evaluations that could be utilised to establish best practice.

Road Trauma Awareness Seminar literature review. (Clark & Edquist, 2012)

The Clark and Edquist (2012) literature review contains much information that is pertinent to this current project. The authors identify many of the factors involved in youth traffic offending and opportunities and limitations of driver improvement programmes. Whilst not titled 'best practice' their summary includes discussion relevant to young driver interventions regarding:

- Programme evaluation
- Behaviour change
- Programme content.

Understanding 'best-practice' in young driver offender programmes and comparison of the RTSSV's 'Drive to Learn' program with 'best-practice'. (Oxley et al., 2014)

The authors of this best practice investigation also inform on justice approaches, from an Australian perspective and inform on many of the theories and general youth offender approaches utilised internationally. The authors report on such topics as:

- Evidence-based principles for driving offence programmes
- Sanction effectiveness for juvenile offenders
- Targets for intervention and favourable programme structures.

The authors report that effective key features of programmes for youth would:

- Include interventions underpinned by sound theory and principles and a therapeutic approach (such as CBT)
- Target and respond to specific needs of individuals, groups and specific behaviours

⁵¹ Project constraints permit only the briefest overview of the substantive content. Programme and policy designers would be well served by reading these few key papers in the original, particularly the most recent ones.

- Avoid the use of programmes aimed at adults
- Have good and consistent implementation, and structured programme content.

Enhancing offender programmes to address recidivism. (Clark et al., 2015b)

The overall findings of this review suggest that there are several key considerations present in existing programmes that are considered ‘best- practice’. These include programmes that:

- Have a sound theoretical basis
- Are specialised programmes, rather than a ‘one size fits all’ approach
- Are targeted at specific age groups.

These findings in many ways echo the findings of Oxley et al. (2014) and may give us a clearer picture of ‘best practice’ with regards to programmes/initiatives aimed specifically at youth traffic offenders.

What works in managing young people who offend? A summary of the international evidence. (Adler et al., 2016)

Whilst Adler et al. (2016) do not provide information specific to youth traffic offenders, they do report on significant information that crosses over to youth traffic offending that is also found in the previous research outlined above. The authors report on youth offending in general and report that effective interventions in reducing youth re-offending considered the following factors:

- The individual’s risk of re-offending and the individual’s needs
- The individual’s ability to respond to an intervention
- The type of programme E.g. Therapeutic programmes tend to be more effective
- Programme implementation and fidelity to programme design.

Best Practice Technology

With regards to technology, the author proposes that the use of alcohol interlocks should be considered ‘best practice’ for youth impaired drivers, particularly in light of the latest findings from VicRoads (2016). The combination of programme intervention and technological response has been reported as being an asset (Bailey et al., 2013). Further in depth research, unfortunately beyond the scope of this research, would be necessary to identify ‘best practice’ regarding the other technological initiatives mentioned in this paper. Due to the infancy of online interventions ‘best practice’ in this countermeasure is not readily identifiable. However, in light of a strong Government focus on Information Technology Services (ITS) strategies and technology solutions further research and evaluation in this field is worth pursuing (New Zealand Government, 2014).

Programme Integrity

Programme integrity refers to the extent to which a programme is implemented and delivered in accordance with the original programme design. Appropriate programme integrity means that providers do not leave out parts of the programme content, do not introduce new elements that are not part of the original programme design, nor deliver the programme in a way that is inconsistent with the intended target group. There does however have to be a balance between maintaining a high degree of compliance with the programme manual, and adhering to the participants responsivity needs (Department of Corrections, 2009).

Andrews & Dowden (2005) have written extensively on the topic of programme integrity. They propose that failure to pay adequate attention to programme integrity may explain most instances of poor programme outcomes. They have developed a checklist against which programmes can be assessed to measure integrity. Key factors related to strong programme integrity include:

- The programme is based on a coherent model or theory of criminal behaviour
- There are written manuals detailing programme content and procedures
- Staff are selected on the basis of desirable interpersonal skills such as interpersonal warmth, interest and understanding
- Staff are adequately trained in delivery methods suitable for the specific programme they are implementing
- Offenders' progress in the programme and the way staff deliver the programme, are monitored and assessed
- Staff receive professional supervision from a skilled senior who is thoroughly familiar with the particular programme.

Being enthusiastic about working with offenders has also been reported to be key to programme integrity (Bonta, 2001).

Section 8

Discussion and Conclusions

This literature review has endeavoured, within the confines of the project capacity, to provide the available relevant information surrounding youth offender interventions. The vast amount of information available was not limited to that drawn from the sources contained in the reference list but also from telephone, email, skype and one-on-one interviews, as well as other relevant activities. The input and engagement of the New Zealand Government and Non-Government groups involved in this research, was vital and has added tremendously to the information contained within this report. In addition the involvement of the international community has been overwhelming and contributed significantly to the content of this research.

Existing Penalties: 'Complementary' vs 'Either/Or'

Before addressing the main purpose of this review, to explore the question *'Are there more effective interventions than standard penalties at reducing re-offending and improving road safety outcomes?'*, some discussion is necessary regarding the information contained within the review. As detailed in the Limitations Section of this report, it is standard for interventions to occur in conjunction with some other penalty, be it fines, demerit points etc. So firstly these approaches regarding our youth drivers and the unlicensed, GDLS breaches and drink driving offences should be discussed.

Fines

In New Zealand, the vast majority of fines for unlicensed and Learner driver offences, and more than half for the Restricted licence holders, go unpaid. This fact seems remarkable and would appear to undermine the very principles of deterrence theory in the first instance. How offenders perceive the efficacy of the law in these early instances could then go a long way to formulating their view regarding the efficacy of the entire criminal justice system in the long term.

That the Learner and Restricted drivers have at the very least made an effort to become licensed and make some progress through the GDLS implies that they are not 'out and out lawbreakers'. Deterrence theory tells us that sanctions are to be severe, swift, and certain. However it appears that the infringement fine response, for the majority of offenders and offences under consideration for this paper, may be falling far short of these aims. Indeed this response may even be counterproductive and outdated.

The initial two Phases of this research agenda followed the fines referred to Court unpaid and, for example, after 5 years under half of the fines referred to Collections⁵² for Learner drivers had been paid. A large percentage of the fines would either have been remitted or replaced with alternative sentences that would require additional administration or supervision costs. This previous research did not follow up on alternative sentence outcomes. It would be revealing research to find out the actual fiscal costs involved in fine retrieval when these remittal outcomes are included. This information may provide a cost-benefit impetus for exploring alternative approaches.

⁵² A business unit of the Ministry of Justice.

Licence Pooling, Reasons for Non-progression and Likelihood of Offending

Most commonly the GDLS breaches are associated with those restrictions put in place (supervised Learner period, night time curfew, and passenger restrictions) to ensure safer driving conditions for our young novice drivers. A large percentage of these drivers are pooling, as identified by the Ministry of Transport (2012), but at the time of their offending, may have met the required time periods and experience to progress through the GDLS. These offences may be avoidable, i.e. eligible for Police traffic compliance (given notice to graduate to the next phase of the GDLS). It would be very revealing to understand the reason why they are breaching the licence conditions, but not progressing when they are eligible to do so. The gathering of this information at the roadside point of detection, by way of a simple questionnaire, would be of benefit in supplying important information regarding barriers to non-progression, reasons for breaching licence conditions and potential interventions.

In Phases One and Two of this project the GDLS offences by duration of licence type held were not investigated however this information, as well as identifying those same GDLS breaches by repeat offence per driver, is crucial to research aimed at identifying appropriate timing and targeting of intervention points, and tailored responses; including tailored warning letters and educational resources, as well as the identification of drivers who could be offered driver improvement programmes. This information could also be used to explore the number of offenders who could be assisted by remedial intervention triggered by demerit point accrual, as reported by Assailly et al. (2012).

Demerit Points

Whilst the New Zealand DPS is another 'one size fits all' response, young drivers and their apparent inherent risky driving behaviour may be a cohort of drivers who require special attention regarding a DPS. The use of driver interventions triggered by demerit point accrual would allow for a more targeted and perhaps preventative response. In contrast, the outcome of further DPS sanctions, as introduced in New Zealand, for non-progression through the GDLS could see a rise in unlicensed driving (Langley et al., 2012).

Licence suspension or disqualification remains an effective threat. The reasons for this could be explored to better understand whether it is good deterrence, reduced exposure, or whether it leads to unlicensed driving but safer driving in efforts to avoid detection.

Youth Specific Needs, Youth Specific Pathways

Taking into account that it is easier to promote good behaviour than it is to change bad behaviour, along the lines of the old adage 'An ounce of prevention is worth a pound of cure', it seems reasonable to assume that the earlier in the offending pattern an intervention is implemented the better. The review identifies young drivers as having unique psychosocial and developmental differences to adults; this implies that penalties/interventions should be specifically designed for youth.

In New Zealand there appears to be a concerted effort aimed towards diverting youth away from the criminal justice system. The investment of all agencies to address, divert, and form a community resolution to youth offending in New Zealand is perhaps without parallel. The findings of this research suggest that the rationale for raising the current age from 17 years for Youth Court and the inclusion of non-imprisonable traffic offences to be heard at Youth Court is valid. After all one could reasonably

assume that, just as a fireman is best suited equipped and knowledgeable to deal with fires, a Youth Court Judge would be comparably most suited, equipped and knowledgeable to deal with youth. These diversionary initiatives, it appears, involve a two way communication process that is currently unachievable through the use of fines and demerit points but is possibly achievable at point of detection at roadside and continuing through Police Youth Aid and Youth Court.

During the time that this paper was being reviewed internationally, the NZ Government announced that both the raising of the age for Youth Court and the inclusion of non-imprisonable traffic offences to be heard at Youth Court will be introduced by 2019.⁵³ The Ministry of Justice advises that the research provided by this project was utilised in informing policy on these changes, and in particular the inclusion of non-imprisonable traffic offences at Youth Court.

A useful two way communication is possibly achievable at point of detection at roadside, and specific approaches to managing youth apprehension deserves further investigation. Point of detection could also be utilised to gather information on the reasons for the offence, instead of just issuance of a fixed penalty notice and to gather insights on the barriers the offender might face to remedy the offence through traffic compliance (e.g. barriers to licence progression, in the case of GDLS offences). Police traffic compliance could be viewed as a pathway to a more targeted response.

Compliance for GDLS non-progression

GDLS unlicensed and drink driving offences might be better viewed as a problem needing remedy not punishment. The scale of the problem is extensive. To put this into perspective, in 2014 our 14-19 year old Restricted licence holder population was 44,630 drivers of which there were some 11,500 Restricted licence breach offences that were eligible to graduate and hence could⁵⁴ result in the use of Police traffic compliance.

There are associated economic benefits reported to acquiring a full driving licence (Auckland Co Lab Design, 2016; New Zealand Institute of Economic Research, 2016). There are also economic benefits involved in safer driving practices. In per-crash terms, the updated average social cost is estimated at \$4,709,000 per fatal crash, \$900,000 per reported serious crash, and \$95,000 per reported minor crash (Ministry of Transport, 2015). Detected offending has a cost associated through Police time and administration as well as possible Court costs. There are also the costs for alternative sentences imposed for unpaid fines, such as supervising and monitoring community service hours.

Regarding our unlicensed driver cohort the use of an intervention, as reported by the Ready for the Road programme here in NZ, may achieve more positive results regarding re-offending rates. Our Learner and Restricted drivers who are still within the required timeframes of their GDLS restrictions could be offered the opportunity to sign a 'good driving contract'⁵⁵ between themselves, the Police, and even bringing their parents into the arena of the offending (considering the important role parents have

⁵³ See <http://www.stuff.co.nz/national/politics/87302156/Youth-Justice-age-to-be-raised-to-18-Anne-Tolley-announces> Last accessed Jan 27, 2017.

⁵⁴ This would depend on the duration of time that the licence had been held. Further research in this area is needed (See Recommendations).

⁵⁵ As reported by the Centers for Disease Control and Prevention. For more information visit: <http://www.cdc.gov/parentsarethekey/agreement/> Last accessed Oct 19, 2016.

been found to play in a young persons' driving behaviour). For those who breach this contract, then there could be an escalation in demerit point accrual.

For Learner and Restricted drivers identified as 'pooling', on detection of pooling when caught breaching in their licence conditions, they could be offered traffic compliance to progress or, if this is not feasible, the option to take part in an online intervention similar to that described by af Wåhlberg (2011) but targeted at their particular offence. In response to low success rates of current penalties, incentives such as a lowering of associated fines in lieu of an offender funded intervention or reduced demerit points for programme participation warrant further investigation. Based on the research findings, it is clear that targeted responses to individual offence types may be necessary. With regards to drivers who fit the criteria for traffic compliance, then these interventions should address the specific needs of the offenders. This could involve an online intervention aimed at assessing their driving ability, similar to one already available in NZ⁵⁶ and identifying progression barriers (financial/driving experience). This could in turn result in referral to an intervention, as described by the Behind The Wheel Programme or the Community Driver Mentor Programme/Community Learner Driver Programme that endeavours to assist and support them through that GDLS progression.

Alcohol interlocks

The latest information (VicRoads, 2016) regarding interlocks and sustained lower levels of re-offending for young and first time detected drink drivers is extremely welcome news. One explanation of these observations could be that because of the age or quicker interlock response (interlock fitting at a first detected offence) that entrenched drinking patterns have not taken hold and the interlock fitting has resulted in some change in behaviour.

Taking all these findings into consideration, one could suggest a range of responses. For example, for first time detected young drink drivers the mandatory fitting of interlocks or a compulsory attendance at a more intensive programme; such as the Blacktown TOP (Australia) or the Right Track programme (already in place in New Zealand). As mentioned previously, a combination of both interlock and programme intervention has been reported as being 'best practice' (Bailey et al., 2013).

Technology

Further specific technological interventions could be appropriate for other types of offending; ISA, Active Accelerator Pedals, Seatbelt Interlocks and Online programmes. With the rapid advance of technology and research in these areas, any review of penalties should include investigation of technological applications.

Conclusions: New Zealand Programmes and Best Practice

Even taking into account the limited evaluation data available the findings do suggest that; **yes, there are more effective alternative interventions than stand-alone fines and demerit points.** Not only does the available evaluation information report reduced re-offending but the programmes reviewed in New Zealand also endeavour to:

- Promote Whānau and community engagement
- Enhance employment opportunities and social development
- Address behavioural and attitudinal issues

⁵⁶ See <http://www.edrive.co.nz/> Last accessed Oct 22, 2016.

- Encourage safer driving practice
- Address underlying issues
- Promote social responsibility
- Empower young people to make positive decisions.

These endeavours appear to be in line with the approach of the youth justice system in New Zealand as promoted by the Police and the Courts. It appears that there is much more to be gained from the intent that these alternative actions provide in supporting positive behaviour change for our young traffic offenders, one that is not even being attempted through the traditional sanctions alone. We recommend that the Right Track programme be revisited and compared to, as close as possible, a matched comparison group. All programme evaluations need to be as rigorous as can possibly be achieved and subject to the ongoing scrutiny of evaluation.

Both the Masten and Peck (2004) and the Ker et al. (2005) meta-analysis papers are cited extensively in research identified within the literature review. The majority of the education type studies/trials included in their research involved short (half day or one day) interventions. It would appear that the alternative initiatives available in New Zealand and reported on in this review go far beyond these one day or half day programmes that have been traditionally employed. We do however await further (and pending) evaluation information from the majority of the NZ alternative initiatives regarding their efficacy in achieving their desired outcomes. However as reported in this review, these programmes do currently go some way toward addressing the problems and barriers faced by young drivers and those underlying causes of youth traffic offending. That we should endeavour to identify and address any underlying causes of offending at the earliest possibility seems obvious. The fact that so many New Zealand Government agencies and Non-Government organisations are already attempting to address these ‘underlying causes’ appears to suggest that this has already been recognised to some extent.

This report was very narrow in its intention to explore the question:

‘Are there more effective interventions than standard penalties at reducing re-offending and improving road safety outcomes?’

The report has gone well beyond this original intention and includes a wealth of relevant information that the project team felt important. Whilst the paper focused on offenders there is a wider context to be considered. It is reported that:

‘an approach focused on “fixing-the-driver” will ultimately prove ineffective, since there are other factors across the system that influence driver behaviour than just fixing the drivers and a more holistic systems based approach’ (Scott-Parker et al, 2016, p. 89).

Scott-Parker et al., (2015) inform that this systems based approach can:

‘...deepen our understanding of young driver road safety through the complex web of interrelationships between contributing factors, interventions and actors’. (Scott-Parker et al, 2015, p. 303).

Several years ago when providing information on the case for Alcohol and Drug Courts for New Zealand (Waters, 2011), the author forwarded information regarding the importance of incorporating community involvement. That community style approach is evident in many of the programmes

identified within this review. Best practice appears to involve two way communication and not a response of applying a low cost initiative and/or merely punishment. The involvement of parents, Whānau and community features extensively throughout the literature reviewed for this paper. With this in mind and with a focus on our young traffic offenders, it is fitting to end this conclusion with the words of Shirley Smith⁵⁷:

'As counsel over many years, defending those charged with criminal offences, I read probation reports that would break your heart. Children brought up in dysfunctional families, without love, abused and beaten, ill-fed and ill-clothed, how were they to turn into model citizens? An overall cause is the replacement of a sense of community by that "every man for himself, and the devil take the hindmost" culture ...To reduce crime it is necessary to identify what makes criminals and deal with the causes ...This is the only long-term, effective way to help victims, to reduce their numbers. Punishment does not work'. (Shirley Smith, cited in Elias, 2009).

⁵⁷ Shirley Smith (1916-2007) was the 41st women to be admitted as a barrister and solicitor in New Zealand, and the first female legal academic at a New Zealand university. She took up legal practice after two years and became widely known for her commitment to social justice and her inspirational example to other women in the legal profession.

Recommendations for further policy development

The following are the recommended priorities for future policy development:

Review the **penalties for GDLS breaches, drink driving and unlicensed driving offences** for youth.

Review of the **penalties for other areas** of offending such as speeding or seatbelt offences and possibly the appropriateness of infringement fines for youth traffic offending.

Updating two-way communications with young drivers via mobile phone and email information.

Continued, increased use of Police traffic compliance with a focus on referral to licensing-type programmes such as the Ready for the Road, Behind The Wheel, the Community Driver Mentor and the Community Learner Driver Programmes.

Cost-benefit review of fines retrieval for youth traffic offences, including the fiscal costs (and justice sector outcomes) of managing the alternative sentences involved in fines remittal.

Ensuring all programmes are funded for evaluations and these are as rigorous as can possibly be achieved and subject to the ongoing scrutiny of evaluation.

Recommendations for further research

Research on GDLS breach offences by repeat offence and frequency of offending in relation to duration of licence type held (pooling).

Investigate methods to collect information on GDLS breach offenders' reasons for non-progression and the specific barriers they may face to taking up traffic compliance.

Research into how offenders perceive the efficacy of the law regarding traffic infringement offences would also prove useful.

Research on constructing online interventions for GDLS breach offences that might assist GDLS progression, upskilling offenders in their safety attitudes, knowledge and risk detection and management.

Research on designs for alternative interventions, possibly triggered by demerit point accrual.

Research into the effect of young drivers failing their licence tests on subsequent offending.

We recommend revisiting all the NZ programmes in 12 months to report on any new evaluation data or evolving relevant information. The Right Track programme in particular needs to be revisited and compared, as close as possible, to a matched comparison group.

Due to the new information available, further research on the use of driver training and fear appeals.

Research on the efficacy of licence suspension/disqualification in NZ.

International Symposium on Youth Traffic Offences in NZ

Given the enormous international interest encountered during the construct of this paper and the limited ability of this paper to include the wealth of currently available information from the many and varied fields relevant to this research; it is proposed that an 'International Symposium on Youth Traffic Offending' be hosted by the New Zealand Government, providing NZ the opportunity to lead the way in addressing youth traffic offending.

Such a symposium would further build on the international collaboration developed during the preparation of this report, and given the high level of interest and research being undertaken in this area, there is a chance to enhance and accelerate our understanding.

A symposium would also build on the agency collaboration apparent within the stakeholder reference group. There are several major policy initiatives currently underway in New Zealand that this work is relevant to and which could benefit from an international symposium on this topic (reviews of the GDLS and driver licensing process, youth justice and vulnerable children, the infringements process, and interest in justice interventions). The conduct of this international symposium could contribute greatly to our existing knowledge and support further addressing areas that go beyond this current report.

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