

Evaluating a package of interventions to improve young driver safety

Graham, P.

New Zealand Transport Agency

Abstract

Young driver safety is a high priority in New Zealand's 10 year road safety strategy, *Safer Journeys*. A target has been set to reduce the rate of fatalities among young people in New Zealand from 21 per 100,000 to a level closer to Australia's 13 per 100,000 (2008 figures). Under this strategy a number of changes have already been implemented: the licensing age was raised to 16 and the licensing test toughened, a zero alcohol limit for under 20-year olds was introduced in 2011, and policing has been targeted to ensure more young people are driving within their licence conditions. Education and advertising initiatives have also been developed to support these changes, and to encourage more parental involvement and safer vehicle choices. The effects of these legislative, enforcement and education interventions have been monitored and evaluated through changes in road crash patterns, audience reactions to the advertising messages, licence offences committed by young drivers, and surveys of driver knowledge and attitudes. Since the changes have been made, the number of drink-driving offences by teenagers decreased by more than 50%, reported crashes involving young drivers decreased by one-third, and some parents have shown an increased intention to remain part of their teenagers' driving supervision beyond the restricted test. The relationships between these interventions and the results achieved so far will be discussed in this paper.

Introduction

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 2007/08, the fatality rate for young New Zealanders in road crashes was 21 per 100,000 population. Half of these fatalities were drivers. By comparison, the equivalent rate in Australia was 13 per 100,000 population. As part of the strategy to reduce fatality rates among young people, a number of interventions have since been put in place aimed at young drivers:

- the age at which people can apply for a licence was raised to 16 years in August 2011
- the licence test for restricted drivers was made significantly longer and more difficult, requiring a higher level of driving ability than previously
- young driver safety was included as a specific activity in the 2012-2015 Road Policing Programme [NZ Transport Agency, 2012a], aiming to ensure that "more young people are driving within their licence conditions"
- a mass media advertising campaign began in 2011 to encourage parents to stay involved with their teenagers after they gain their restricted licence
- the alcohol limit for drivers under the age of 20 years was reduced to zero in August 2011.

New Zealand has had a graduated driver licensing scheme (GDLS) in place since 1987. Prior to August 2011, a person was able to apply for a learner licence when they turned 15 years of age, and start learning to drive. After six months on a learner licence, they could undertake a test to gain their restricted licence. Drivers became eligible for a full licence after a further 18 months, or 12 months if they completed an approved advanced driving course.

The learner phase of the GDLS remains relatively safe, as drivers are required to be supervised while driving. The highest risk of crash involvement is during the first six months of driving solo in the restricted phase. Most of the new interventions address this restricted phase.

New Zealand's road safety strategy is founded on a safe system approach, which focuses attention on programmes, measures and interventions designed to reduce fatal and serious injuries. Although the goal of the strategy for young driver safety is based on overall fatality rates for young people in crashes, this paper will take the safe system approach of discussing trends and results in terms of fatal and serious injuries. Serious injuries in New Zealand crash reports are defined as fractures, concussion, internal injuries, crushings, severe cuts and lacerations, severe general shock necessitating medical treatment, and any other injury involving removal to and detention in hospital.

Advertising

In 2010, an advertising campaign was developed with the aim of increasing the awareness of the high risks that young drivers face on the roads in New Zealand. The campaign was targeted at parents and caregivers, demonstrating the importance of continued supervision once their teenager begins driving solo, and encouraging both the parents and novice drivers to use the [safe teen driver](#) education website.

Advertising messages have been placed in multiple media to promote young driver safety, by targeting the parents and caregivers of young drivers who have recently graduated from a learner licence and gained their restricted licence. The intention of the advertising was to promote the idea to parents that they need to remain part of their young driver's training. The advertising needed to dispel the perception that the restricted licence is an opportunity for parents to end their involvement.

Further details of the advertising campaign itself can be found on the [campaign website](#) [NZ Transport Agency, 2013].

The performance of the advertising campaign is monitored by means of a continuous online survey. This survey, conducted throughout the year and averaging 55 participants per week, is used to monitor audience reactions to all the NZ Transport Agency's advertising campaigns. Survey questions of interest to this paper include:

- recall, relevance, likeability and message takeout
- attitudes to driving and road safety issues
- demographic information.

The survey sample is structured to provide sufficient numbers of males, young people, rural people and Maori for these groups to be analysed separately. Males and young people are therefore over-sampled to enable these analyses. The survey data include weightings to standardise the sample to a normal demographic distribution, to permit analyses of the whole sample [Table 1].

The Young Driver campaign launched in June 2010, led by the television (TV) advertisement "Don't Bail Out" and supported by print, radio and online advertisements. The TV advertisement has good awareness, with over 90% of the target audience being aware of the campaign when prompted. Relevance of the advertising was, pleasingly, highest for couples with children, males (reflecting the lead characters in the TV advertisement), people aged 40–54 years, and higher household incomes (\$60,000 and higher).

Table 1. Advertising survey sample structure (3 months, N=720)

	Sample structure	Population structure
Males	60%	50%
Females	40%	50%
16-24 year olds	45%	17%
Rural/provincial	20%	27%
Maori	14%	16%

Of the key messages reported by the target audience, 40% are in the right territory, from the point of view of the campaign, of “keep supervising” or “the job isn’t over”. Figures 1 and 2 illustrate that the level of message takeout, and awareness of the advertising, both stabilise after 8 – 9 months.

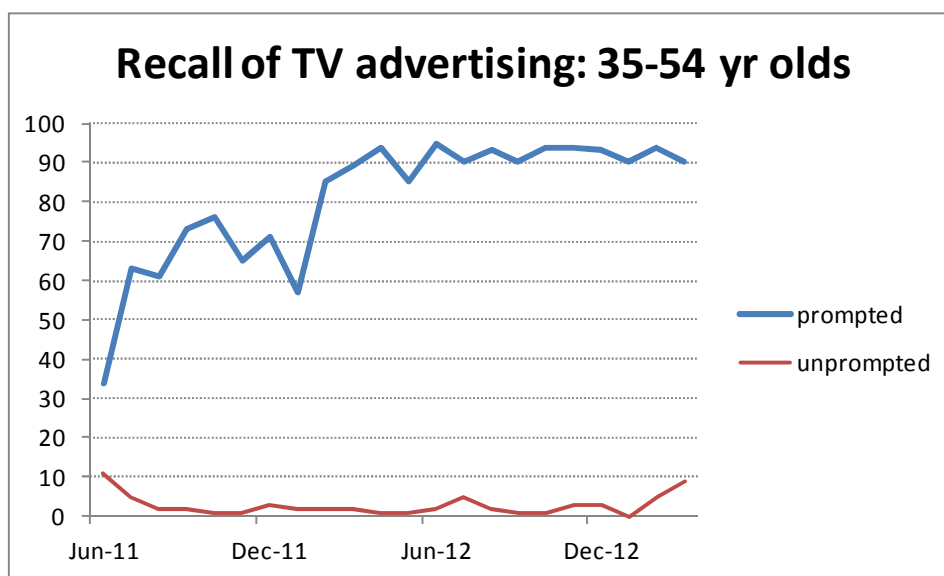


Figure 1. Percentage of surveyed audience who recalled the TV advertisement “Don’t Bail Out”

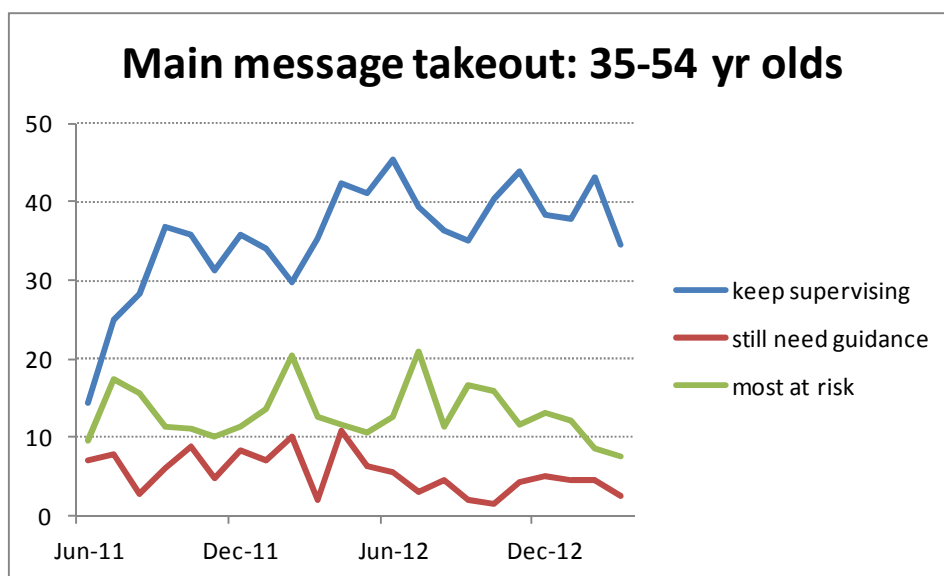


Figure 2. Percentage of surveyed audience who reply with key main messages to the question “What do you think the advertiser is saying to you in this advertisement?”

As for an awareness of risk, only around 10% of the target audience responded with the key message “young drivers are most at risk when they are on their restricted licence”. However 87% of the target audience agreed to a statement that the first 6 months of driving solo after passing the

restricted licence test, is when their teen is most at risk of having a crash where someone gets injured or killed [Glasshouse Consulting, 2012].

Enforcement

As part of the 2010–2020 *Safer Journeys* strategy, young driver safety is included as a specific activity within the 2012–2015 Road Policing Programme. The Road Policing Programme is an agreement between the Minister of Transport and the NZ Police for the delivery of road policing services. The desired outcome for this policing activity is that “more young people are driving within their licence conditions” [NZ Transport Agency, 2012].

Road policing is expected to contribute significantly to a two strategic outcomes: (1) a reduction in the number of young drivers on graduated licences who are at fault in fatal/serious crashes, and (2) an increased percentage of youth surveyed who believe they will be stopped for non-alcohol/speed offences. Police report their level of enforcement activity each quarter to the Minister and the NZTA.

The road policing contribution is delivered primarily by enforcement of the licence provisions under the GDLS, such as not driving between 10pm and 5am, or carrying passengers without the supervision of a licensed driver. From 2011 onwards, offending decreased nearly 30% from a steady level of around 50,000 detected offences per year during 2005–2010, to around 35,000 offences in 2012 [Figure 3]. An overall decrease in detected offences by 15–19 year old drivers has occurred since 2008, which only accentuates the later change in GDL offending in more recent years.

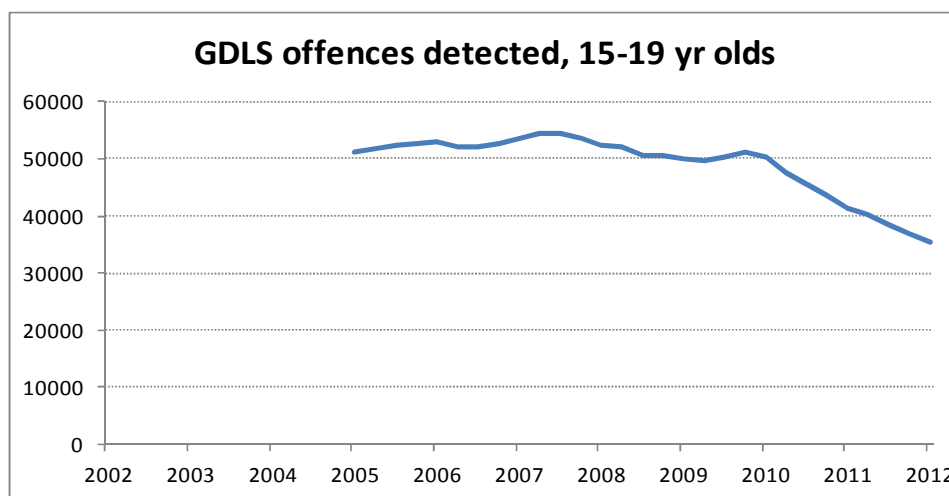


Figure 3. *Offence notices issued for graduated driver licence offences by 15-19 year old drivers (rolling 12 month totals)*

Driver knowledge and attitudes

Two sources of information were used to monitor any changes in the attitudes of young drivers. The NZ Ministry of Transport conducts an annual survey of public attitudes to road safety, through one-on-one interviews with approximately 1600 people each year [Ministry of Transport, 2012]. Approximately 300 people in the survey are aged 15–24 years, and their responses have been used in this paper. Questions pertinent to recent interventions designed to improve young driver safety included:

- How likely are you to be stopped for other traffic offences (not drink-driving or speeding)?

- Have you driven while slightly intoxicated in last 12 months?
- Do you agree most people caught driving under influence are just unlucky?
- Do you agree it's difficult to go easy when drinking with friends?

Table 2 show the shifts in these attitude statements since 2003, by young people aged 15–24 years and by all people in the survey. Typically, attitudes are slow to change. However, one of the success measures for the road policing contribution to young driver safety - the percentage of youth surveyed who believe they will be stopped for non-alcohol/speed offences - has shown a steady improvement since 2006 [Figure 4].

Table 2. Results from annual survey of public attitudes to road safety

	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
Percentage of drivers who agree they are likely to be stopped for non alcohol/speed offences										
15-24 yr olds	44	41	34	28	39	35	41	44	39	42
all people	32	36	33	32	34	37	36	41	38	37
Percentage of drivers who say they have driven while slightly intoxicated in last 12 months										
15-24 yr olds	26	26	15	27	28	27	26	28	26	25
all people	24	20	21	24	23	23	21	20	21	20
Percentage of people who agree it is difficult to go easy when drinking with friends										
15-24 yr olds	47	35	45	44	47	48	32	41	50	39
all people	35	31	35	35	37	39	34	35	38	35
Percentage who agree most people caught driving under influence are just unlucky										
15-24 yr olds	28	18	18	23	26	28	16	16	17	16
all people	20	17	17	19	17	19	17	16	16	16

As part of the continuous monitoring survey for the New Zealand road safety advertising programme, described above, respondents are asked a short set of attitudinal questions about road safety issues. The responses are collected into quarterly or annual summaries. Two questions of interest to this paper from the advertising monitoring survey are:

- What things do you think can make driving on New Zealand roads unsafe?
- How many drinks would you normally have and still consider driving?

Among the usual features that are considered to make driving unsafe, such as drink-driving, speeding, the condition of the road and the weather, “inexperienced drivers” is mentioned by 8% of respondents. Although the percentages are small, from a survey sample of 240 young respondents each quarter, and 360 older respondents, the trend may indicate an increasing awareness of the risks associated with young drivers [Figure 5].

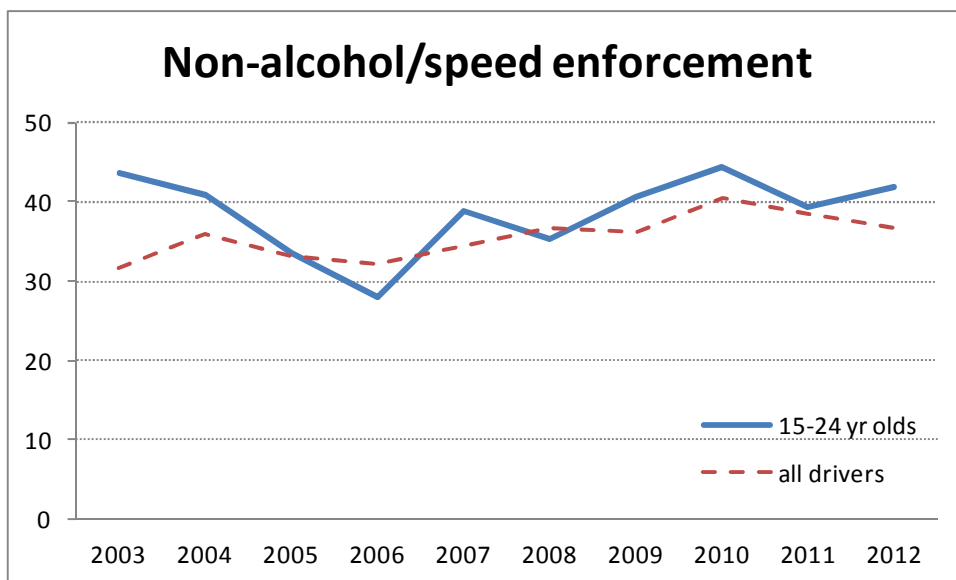


Figure 4. Percentage of surveyed drivers who agree they are likely to be stopped by Police for offences other than drink-driving or speeding

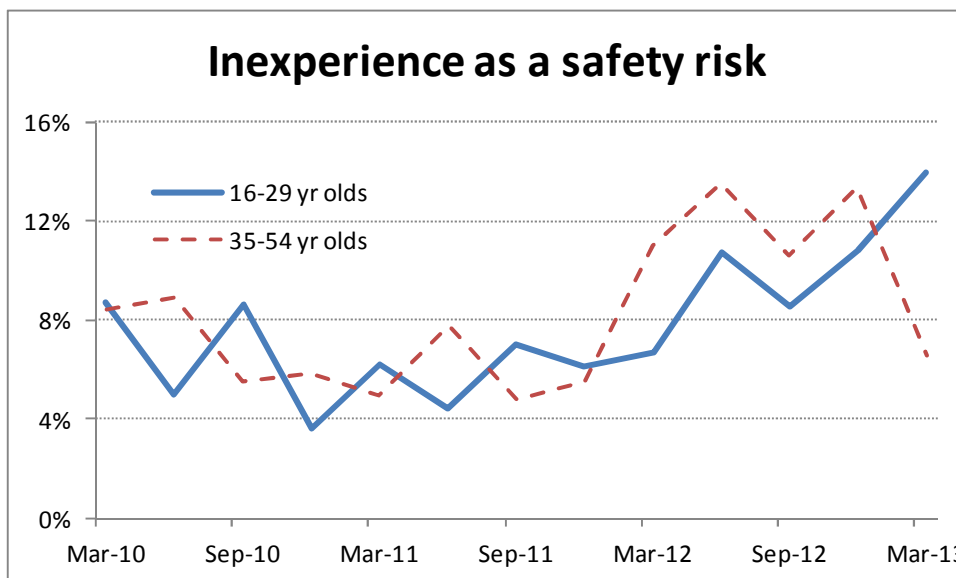


Figure 5. Percentage of surveyed people who consider “inexperienced drivers” make driving on New Zealand roads unsafe

The second question in the advertising monitoring survey has been introduced into the survey only recently, and the numbers are not yet sufficient for the results to be disaggregated for young and older drivers to show any effect from the recent zero alcohol limit for drivers under 20 years of age. Data from the first three quarters have shown a consistent response level of close to 90% who say they would consider driving after 0, 1 or 2 drinks. Only 1% say they would consider driving after more than 4 drinks.

Crash patterns

Road crashes and injuries involving young drivers have been extracted from the NZ Crash Analysis System for the period from 2002, prior to these interventions, and up until March of this year. Crash factors of interest to this paper have been the driver’s age, licence status and alcohol level, the severity of the crash, and whether the driver is at fault.

Between 2002 and 2009, approximately 1000 drivers aged 15–24 years were involved in fatal or serious injury crashes in New Zealand each year [Figure 6]. After 2009, this number decreased by approximately 100 each year, so that by the end of 2012 the total had fallen to 650 young drivers per year in fatal or serious injury crashes. Sixty-one young people were killed in road crashes in 2012 (9.5 per 100,000 population), compared to 117 in 2008.

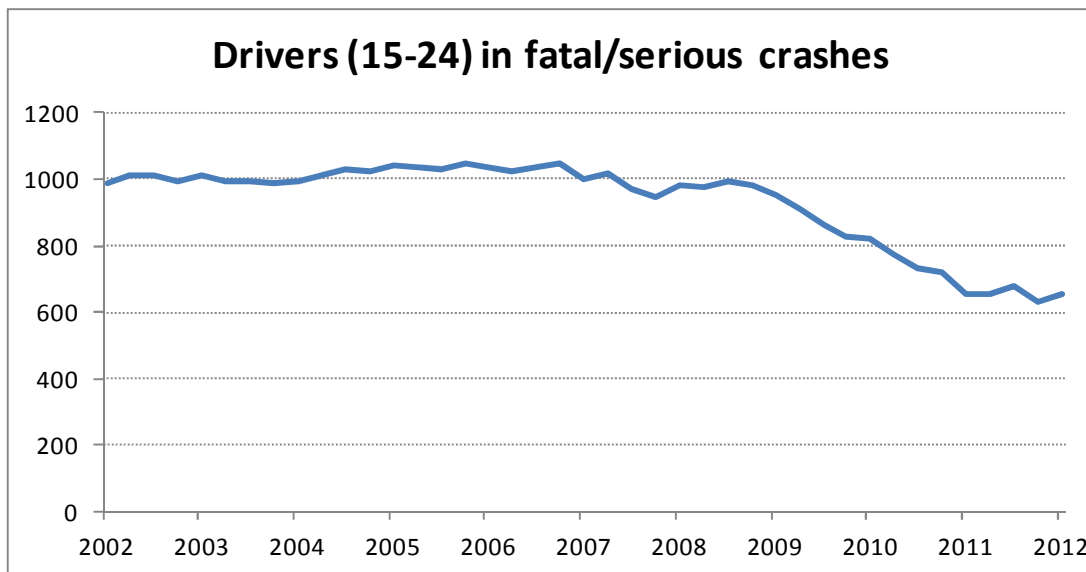


Figure 6. Young drivers (15-24 years) in fatal or serious injury crashes (rolling 12 month totals)

The downward trend is more remarkable because it is particular to young drivers. On a per capita basis, a sharp decrease in driver crash involvement per 100,000 population is apparent after 2009 for young drivers, but not for the larger population of drivers 25 years and over [Figure 7].

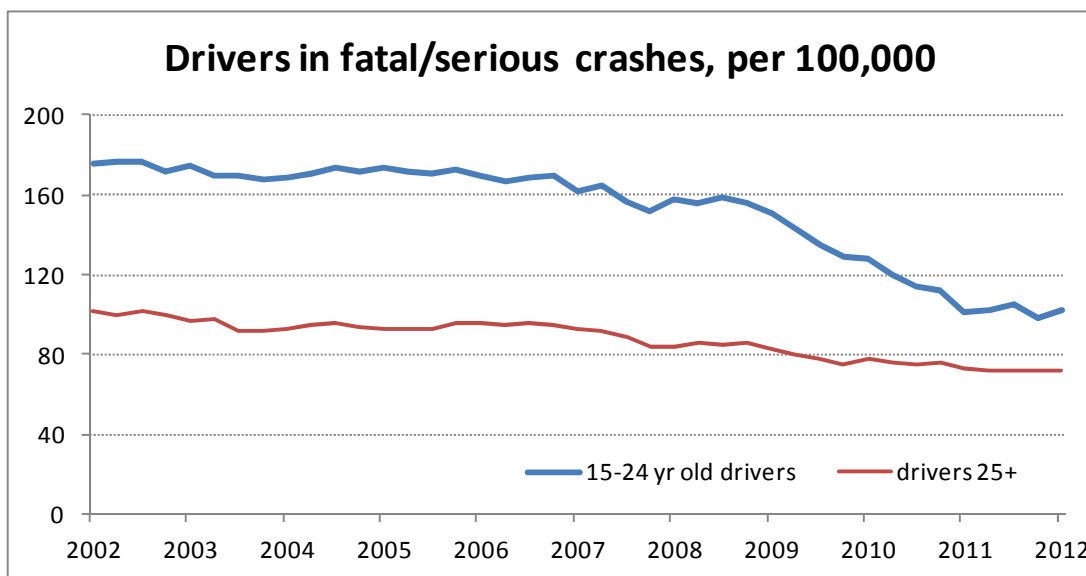


Figure 7. Drivers in fatal or serious injury crashes, per 100,000 population, by age group (rolling 12 month totals)

A more detailed investigation of the crash records reveals that the decrease in young drivers in crashes is most apparent for those on restricted licences. After 2007, the number of drivers aged 15–19 years who were involved in fatal or serious injury crashes halved from approximately 200

per year to 100 per year by the end of 2012 [Figure 8]. A similar reduction, in percentage terms, occurred for drivers on learner licences, but two years later.

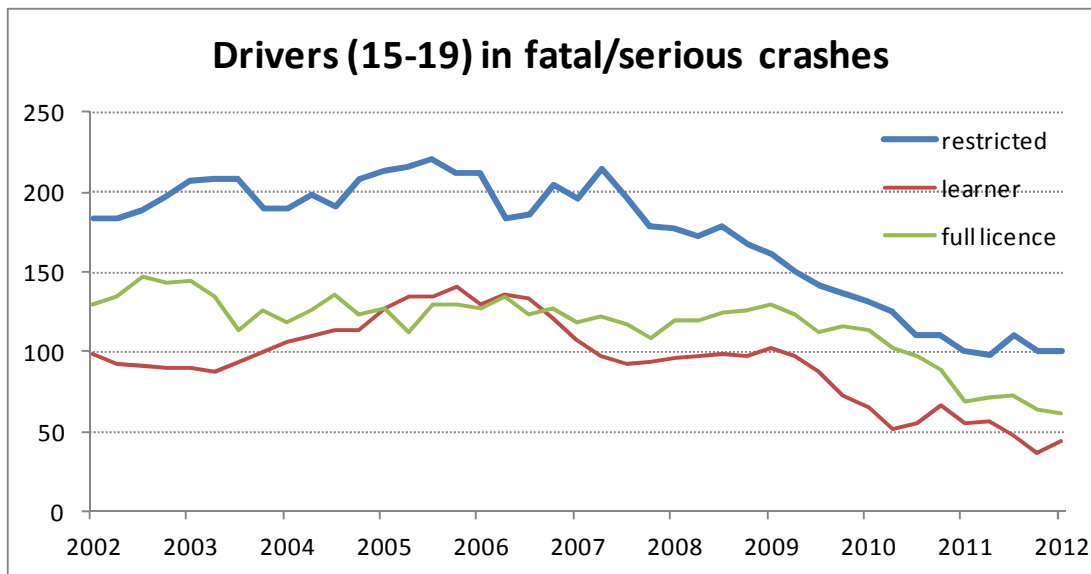


Figure 8. Drivers in fatal or serious injury crashes, by licence status (rolling 12 month totals)

Alcohol as a contributing factor in young driver crashes also decreased after 2007. From that time, the involvement of alcohol-affected, 15–19 year old drivers decreased from approximately 120 per year to 60 per year by the end of 2012 [Figure 9]. By comparison, the decrease in alcohol-affected drivers in fatal or serious injury crashes among the wider driving population was much less pronounced. This is shown in Figure 9 with a time series indexed to 100 in 2002, to allow a straightforward comparison with the younger driver time series.

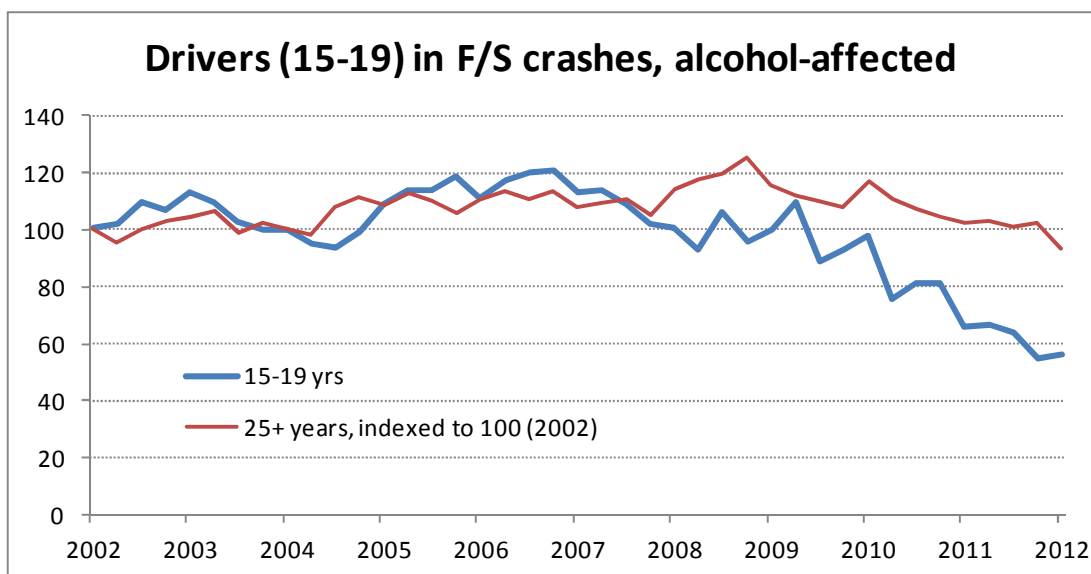


Figure 9. Alcohol- affected drivers in fatal or serious injury crashes, by age group, 25+ year olds indexed to 2002=100 (rolling 12 month totals)

Discussion and conclusions

This paper draws together the results of Police enforcement activity, a mass media advertising campaign, public attitude surveys and crash reports in an attempt to demonstrate the effects of changes in New Zealand’s strategic emphasis on young driver safety. Regulatory changes have also been part of the strategy, raising the age at which new drivers can learn to drive, increasing the

difficulty of the restricted driving test, and reducing the driver alcohol limit to zero for persons under 20 years of age.

Since the changes have been made, the number of drink-driving offences by teenagers decreased by more than 50%, reported crashes involving young drivers decreased by one-third, and some parents have shown an increased intention to remain part of their teenagers' driving supervision beyond the restricted test.

The timeframe for some of these results has varied. The number of crashes involving young, 15-24 year old, drivers began to decrease from 2009. More particularly, crashes and offending involving teenage drivers began to decrease substantially after 2010, coinciding with the introduction of licensing changes and a zero alcohol limit for these drivers.

Interventions relating to young drivers were therefore beginning to have an effect even before the regulatory changes in 2011. These latter changes helped to dramatically reduce overall fatalities and serious injuries among young people and young drivers, and to move the fatality rate towards its goal. By the end of 2012 the fatality rate for young New Zealanders in road crashes had decreased to 10 per 100,000 population.

References

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