



PARLIAMENT OF NEW SOUTH WALES

## Joint Standing Committee on Road Safety (Staysafe)

REPORT 2/55 – MARCH 2013

### REPORT ON DRIVER AND ROAD USER DISTRACTION



New South Wales Parliamentary Library cataloguing-in-publication data:

**New South Wales. Parliament. Joint Standing Committee on Road Safety.**

Report on the inquiry into road user distraction / Joint Standing Committee on Road Safety (Staysafe), Parliament of New South Wales. [Sydney, N.S.W.] : the Committee, 2013. – [75] p. ; 30 cm. (Report ; no. 2/55).

Chair: Greg Aplin, MP

“March 2013”

ISBN 9781921686634

1. Distracted driving—New South Wales.
2. Cell phones and traffic accidents—New South Wales.
3. Traffic safety—New South Wales.
  - I. Title
  - II. Aplin, Greg.
  - III. Series: New South Wales. Parliament. Joint Standing Committee on Road Safety. Report ; no. 55/2

363.125 (DDC22)

The motto of the coat of arms for the state of New South Wales is “Orta recens quam pura nites”. It is written in Latin and means “newly risen, how brightly you shine”.

# Contents

Membership _____	iii
Terms of Reference _____	iv
Chair’s Foreword _____	v
List of Findings and Recommendations _____	vi
Glossary _____	ix
<b>CHAPTER ONE – INTRODUCTION .....</b>	<b>1</b>
<b>BACKGROUND _____</b>	<b>1</b>
<b>CONDUCT OF INQUIRY _____</b>	<b>1</b>
<b>CHAPTER TWO – THE NATURE OF DISTRACTION.....</b>	<b>3</b>
<b>MAJOR SOURCES OF DISTRACTION _____</b>	<b>4</b>
Mobile phones and in-vehicle devices _____	5
Other in-vehicle distractions _____	8
Vulnerable road users _____	9
<b>FACTORS INFLUENCING DISTRACTION IMPACT _____</b>	<b>10</b>
<b>MEASUREMENT AND DATA COLLECTION _____</b>	<b>11</b>
Laboratory studies _____	12
On road observations _____	12
Case control self-report studies _____	13
Naturalistic driving studies _____	13
<b>CHAPTER THREE – TRENDS IN ELECTRONIC DEVICE TECHNOLOGY.....</b>	<b>16</b>
<b>CURRENT UTILISATION OF IN-CAR AND OTHER DEVICES _____</b>	<b>16</b>
Mobile telephones _____	16
Global Positioning Systems (GPS) _____	20
Entertainment systems _____	22
Other technologies _____	23
<b>EMERGING TECHNOLOGIES _____</b>	<b>24</b>
<b>CHAPTER FOUR – REGULATORY CONTROLS .....</b>	<b>30</b>
<b>PENALTIES AND ENFORCEMENT _____</b>	<b>30</b>
<b>PLANNING INSTRUMENTS _____</b>	<b>35</b>
<b>TECHNOLOGY REGULATION _____</b>	<b>39</b>
<b>CHAPTER FIVE – ROAD SAFETY EDUCATION.....</b>	<b>42</b>
<b>CURRENT SCHOOL EDUCATION PROGRAMS _____</b>	<b>42</b>
Additional education _____	43
<b>OTHER EDUCATION PROGRAMS _____</b>	<b>44</b>
Community based education _____	46

MASS MEDIA AND INFORMATION CAMPAIGNS .....	48
CHAPTER SIX – CONCLUSIONS AND RECOMMENDATIONS.....	55
DEFINITION AND DATA COLLECTION .....	55
ELECTRONIC DEVICES .....	56
REGULATORY REMEDIES AND ENFORCEMENT .....	58
ROADSIDE ADVERTISING AND SIGNAGE .....	59
ROAD SAFETY EDUCATION.....	60
MEDIA CAMPAIGNS .....	61
VULNERABLE ROAD USERS .....	62
APPENDIX ONE – LIST OF SUBMISSIONS.....	63
APPENDIX TWO – LIST OF WITNESSES .....	65
17 AUGUST 2012, MACQUARIE ROOM, PARLIAMENT HOUSE .....	65
24 AUGUST 2012, MACQUARIE ROOM, PARLIAMENT HOUSE .....	66
APPENDIX THREE – EXTRACTS FROM MINUTES.....	67

# Membership

<b>CHAIR</b>	Mr Greg Aplin MP, Member for Albury
<b>DEPUTY CHAIR</b>	The Hon Rick Colless MLC
<b>MEMBERS</b>	Mr Stuart Ayres MP, Member for Penrith The Hon Cate Faehrmann MLC Mr Robert Furolo MP, Member for Lakemba The Hon Walt Secord MLC Mr Darren Webber MP, Member for Wyong Mr John Williams MP, Member for Murray-Darling
<b>CONTACT DETAILS</b>	Joint Standing Committee on Road Safety (Staysafe) Parliament of New South Wales Macquarie Street Sydney NSW 2000
<b>TELEPHONE</b>	02 9230 2899
<b>FACSIMILE</b>	02 9230 3052
<b>E-MAIL</b>	<a href="mailto:staysafe@parliament.nsw.gov.au">staysafe@parliament.nsw.gov.au</a>
<b>URL</b>	<a href="http://www.parliament.nsw.gov.au/staysafe">www.parliament.nsw.gov.au/staysafe</a>

# Terms of Reference

That the Committee examines the role of distraction in crash casualties as it affects all road users in NSW, with a view to identifying its impact and to propose solutions for mitigating its negative consequences, with particular reference to:

- (a) The nature and extent of distraction as a contributor to crash casualties on NSW roads;
- (b) Current rates and future trends in take-up of electronic devices, both by road users and vehicle manufacturers;
- (c) Regulatory means of enforcing harm minimisation caused by such devices;
- (d) Technological solutions to managing the harmful consequences of distraction;
- (e) Other solutions to reduce information overload for road users; and
- (f) Any other related matters.

## Chair's Foreword

This Inquiry responds to increasing concerns about the greater influence of and reliance on interactive technology and its impact on road safety. The explosion of information and entertainment sources and the desire to be connected and engaged with events in real time, have resulted in a revolution in the design and manufacture of a range of devices. This development has contributed to expectations that everyone is able to be contacted instantaneously, regardless of location or mode of travel.

Distraction resulting from these devices, particularly as it applies to road safety, can lead to catastrophic consequences for vehicle drivers, cyclists, pedestrians and all those who use the road network. In recent times, the advent of more and more sophisticated interactive technology has compounded previous risks of distraction. The ability to interact with a variety of information sources simultaneously, means that our ability to selectively attend to the most important task at any one time becomes compromised and may result in hazardous outcomes.

Staysafe has examined recent developments in technology and made assessments about the negative implications and risks associated with distracting technology, as well as the possible benefits of harnessing the power of computing to reduce information overload and to assist in managing competing priorities.

The advent of smart phones and their interoperability with vehicle technology, as well as the integration of other in-car vehicle communication systems, offer opportunities for improved safety, provided that regulators, manufacturers, road safety practitioners and road users recognise the challenges involved and work collaboratively to develop workable solutions.

The Committee has made recommendations to increase public awareness of the nature and consequences of distraction, to improve data collection and research and to institute a better testing regime for devices to ensure their safety. Additionally, stricter enforcement of breaches for the illegal use of devices and a more rigorous approach to limit the amount of unregulated roadside advertising has been recommended by the Committee.

In recognition of the associated risks for all who use the road, the Report also recommends that more attention be focussed on vulnerable road user groups, such as pedestrians and cyclists, to ensure that the impact of distraction on their road use can be monitored and the harmful risks minimised.

I am pleased to present this Report and thank my fellow Committee Members and the Committee Secretariat for their contributions and assistance.

**Greg Aplin MP**  
Chair

# List of Findings and Recommendations

**RECOMMENDATION 1** \_\_\_\_\_ 55

The development of comprehensive and accurate crash data is vital for developing and implementing road safety initiatives, and the Committee recommends that Transport for NSW raises the necessity for a standard definition of distraction as an agenda item for consideration by the Council of Australian Governments Standing Council on Transport and Infrastructure. This definition should also incorporate a specific set of categories for distraction, to distinguish it from fatigue and inattention.

**RECOMMENDATION 2** \_\_\_\_\_ 56

The Committee recommends that Transport for NSW, in collaboration with NSW Police, investigate legislative means to enable the collection of mobile phone data from vehicles at crash sites to determine their possible contribution to the crash outcome.

**RECOMMENDATION 3** \_\_\_\_\_ 57

The Committee recommends that Transport for NSW makes greater efforts to ensure the enforcement of appropriate standards for the location and installation of mobile electronic devices in vehicles.

**RECOMMENDATION 4** \_\_\_\_\_ 57

The Committee further recommends that Transport for NSW, as part of the development of the NSW and National Road Safety strategies, supports amendments to Australian Design Rule 42/05 to clarify the status of a driver's aid to limit driver distraction from in-vehicle electronic devices.

**RECOMMENDATION 5** \_\_\_\_\_ 57

Additionally, the Committee recommends that Transport for NSW consults vehicle manufacturers to ensure that they are compliant with current and proposed Australian Design Rules.

**RECOMMENDATION 6** \_\_\_\_\_ 57

The Committee recommends that Transport for NSW promotes improved testing of all new in-vehicle electronic devices for their driver distraction impacts. Clarifying appropriate standards of design and operation will assist in preventing unsafe devices from being included in vehicles sold in Australia.

**RECOMMENDATION 7** \_\_\_\_\_ 58

The Committee recommends that Transport for NSW investigates the potential benefits of workload managers for reducing distraction impacts for drivers with a view to promoting their greater dissemination and inclusion in safety equipment for new vehicles.

**RECOMMENDATION 8** \_\_\_\_\_ 58

The Committee supports the view of the National Road Safety Council that targeting at risk groups in the driving population is likely to be more effective in reducing crash risk and therefore recommends that the current prohibition on mobile phone use by P1 drivers be extended to cover P2 drivers.



**RECOMMENDATION 9** \_\_\_\_\_ **58**

The Committee recommends that Transport for NSW urgently progresses its work with the NSW Police Force to develop an enhanced enforcement approach to mobile phone use while driving. Consideration should be given to increasing the penalties applying to second and repeated offences for the use of hand-held mobile phones by vehicle drivers.

**RECOMMENDATION 10** \_\_\_\_\_ **59**

The Committee recommends that Transport for NSW expedites the creation of a separate offence category for the use of mobile devices for sending or receiving non-voice based communication while driving.

**RECOMMENDATION 11** \_\_\_\_\_ **59**

The Committee recommends that Transport for NSW finalises, as a matter of urgency, its review of variable message signs in order to provide greater certainty for drivers and the outdoor media industry concerning the safe operation and locations of such signs.

**RECOMMENDATION 12** \_\_\_\_\_ **59**

The Committee further recommends that Transport for NSW conducts research into the impact of digital billboard signage interacting with electronic devices within vehicles to determine safety risks associated with their increasing use.

**RECOMMENDATION 13** \_\_\_\_\_ **60**

The Committee recommends that the Department of Planning and Infrastructure and Transport for NSW strengthen the compliance regime for the use of on-premise digital signage to bring these into line with other signage regulated under State environmental planning instruments.

**RECOMMENDATION 14** \_\_\_\_\_ **60**

The Committee also recommends that Transport for NSW commissions detailed research to determine the impact of advertising signage on crash rates at locations where road signs are displayed. In cases where signage is placed at high crash incidence sites, the suitability of these sites for roadside signage should be reviewed.

**RECOMMENDATION 15** \_\_\_\_\_ **60**

The Committee recommends that Transport for NSW reviews the current operation of the NSW taxi industry dispatch system, with a view to ensuring that the mounted units comply with standards to limit driver distraction by in-vehicle electronic devices.

**RECOMMENDATION 16** \_\_\_\_\_ **60**

As part of the review of the taxi dispatch system, the Committee also recommends that Transport for NSW examines the increasing use by passengers and some drivers of unauthorised dispatch systems and its potential to compromise safety.

**RECOMMENDATION 17** \_\_\_\_\_ **61**

The Committee recommends that the Department of Education and the Centre for Road Safety revise and expand the NSW PDHPE school syllabus by including specific material on road safety distraction, covering all age groups, with a specific focus on young people in a variety of road user categories including pedestrians, passengers, wheels users or future drivers.

**RECOMMENDATION 18** \_\_\_\_\_ **61**

The Committee recommends that Transport for NSW, as part of its educational and campaign strategies, makes greater use of social media to promote messages focussing on distraction and its impacts on road safety. In particular, the Geared website should be more widely disseminated on social media platforms to better target its core audience of young people.

**RECOMMENDATION 19** \_\_\_\_\_ **61**

The Committee recommends that Transport for NSW develops a campaign to alert drivers to the optimal use of mobile phones while driving in order to reduce the potential for driver distraction. Such a campaign should highlight the potential consequences of distraction related impaired driving, which may result in serious injury and fatality.

**RECOMMENDATION 20** \_\_\_\_\_ **62**

The Committee recommends that Transport for NSW, as part of its next road safety campaign directed at drivers and other road users, devises messages to highlight the role of self-regulation as an important factor influencing distraction impact on crash risk.

**RECOMMENDATION 21** \_\_\_\_\_ **62**

The Committee recommends that Transport for NSW commissions specific research into the impact of distraction on vulnerable road users, specifically examining age and gender related effects, with a view to devising appropriate interventions and countermeasures to minimise its impact on this group.

# Glossary

ADR	Australian Design Rule
AMTA	Australian Mobile Telecommunications Association
CDS	Crashworthiness Data System
CRS	Centre for Road Safety
DPI	Department of Planning and Infrastructure
GPS	Global Positioning System
NRSC	National Road Safety Council
OMA	Outdoor Media Association
PDHPE	Personal Development, Health and Physical Education
RMS	Roads and Maritime Services RYDA Rotary Youth Driving Awareness
SEPP	State Environmental Planning Policy
TARS	Transport and Road Safety Research Unit
VMS	Variable Message Sign



# Chapter One – Introduction

## BACKGROUND

- 1.1 Increasingly evolving sources of distraction and their cumulative impact on road user safety are of mounting concern to policy makers and road safety experts in NSW. These concerns are highlighted in the National Road Safety Strategy 2011-2020, which cites driver distraction as a significant contributor to crash casualties. This issue is also under increasing scrutiny by road safety administrations nationally and internationally, as rapid innovation in vehicle design technology is likely to accelerate into the future.
- 1.2 While many of these advances can be beneficial, electronic devices also create safety concerns due to their potential distraction impacts. Early adoption of such technology in Australia has resulted in a very high take-up of mobile phone devices, which are capable of performing more and more complex tasks. The added functionality of mobile technology creates the ability to multitask and consequently places additional demands on cognitive processing and the ability to navigate the road safely.
- 1.3 The Committee decided that it would be timely to investigate the risks and benefits associated with such technological advances and other sources of distraction for road users and to suggest possible ways to mitigate their negative impacts on road safety.

## CONDUCT OF INQUIRY

- 1.4 On 22 February 2012, the Joint Standing Committee on Road Safety (Staysafe) resolved to commence an inquiry in the following terms:

That the Committee examines the role of distraction in crash casualties as it affects all road users in NSW, with a view to identifying its impact and to propose solutions for mitigating its negative consequences, with particular reference to:

  - (a) The nature and extent of distraction as a contributor to crash casualties on NSW roads;
  - (b) Current rates and future trends in take-up of electronic devices, both by road users and vehicle manufacturers;
  - (c) Regulatory means of enforcing harm minimisation caused by such devices;
  - (d) Technological solutions to managing the harmful consequences of distraction;
  - (e) Other solutions to reduce information overload for road users; and
  - (f) Any other related matters.
- 1.5 The Committee called for submissions, advertising the Inquiry on the Parliament's website and in the local press and by writing to relevant organisations and road

INTRODUCTION

safety practitioners. The closing date for submissions to be lodged was 27 April 2012.

- 1.6 In total, the Committee received 40 submissions from private citizens, local governments, non-government organisations, companies, academics and government agencies. A full list of the submissions received can be found at Appendix One and copies of the submissions are available on the Committee's website.
- 1.7 As part of the Inquiry, the Committee also held two full days of public hearings in Sydney on 17 August and 24 August 2012. The public hearings gave the Committee an opportunity to further explore the issues raised in submissions and to examine trends in and solutions to driver and road user distraction. A full list of witnesses who appeared before the Committee can be found at Appendix Two. Transcripts of the evidence provided are available on the Committee's website

## Chapter Two – The Nature of Distraction

- 2.1 Within the road safety arena, there is currently no standardised definition of distraction which allows an accurate assessment of its role and impact, enabling clear categorisation and data comparison. In April 2010, a US-EU Bilateral ITS Technical Task Force produced a report which recognised that different definitions of distraction may lead to different estimates of its role as a contributing factor in road crashes.
- 2.2 The US-EU report recommended that a common definition of driver distraction be adopted internationally, in the following terms: "Driver distraction is the diversion of attention from activities critical for safe driving to a competing activity".<sup>1</sup> The report provides further explanations of the issues to be considered as part of the definition, including: the nature of "critical activities; competing activities; distraction thresholds; triggering events; distraction and volition; and attention related failures".
- 2.3 While research literature in the area refers to the terms 'distraction' and 'inattention' when describing factors involved in vehicle crashes, there appears to be a degree of ambiguity in how these terms are defined and used relative to one another. This means that research findings may be measuring different constructs and outcomes, resulting in different classifications systems for coding crash data and influencing the adoption of specific countermeasures, thus limiting their effectiveness.<sup>2</sup> Additionally, the majority of research to date has focused on driver distraction rather than the impact of distraction on the broader category of all road users, the subject of the Committee's Inquiry.
- 2.4 In the context of this Report, a useful operational definition of distraction was provided in the submission from the National Road Safety Council which refers to "...events and activities which may draw attention, processing resources, or physical activity away from a pre-defined primary task (in this case driving, riding, or other road use)".<sup>3</sup>
- 2.5 Distraction compromises the ability of all road users to properly attend to the task of navigating the road network in a safe and effective manner, resulting in an increased risk of injury and fatality. The consequences of road user distraction therefore constitute a significant road safety problem.
- 2.6 The driving task requires a combination of judgement and motor and behavioural skills in order to avoid collisions, monitor speed, navigate a vehicle and maintain position on the road. According to research carried out in the United States, which has the most advanced data set available in this field, between 18% and

---

1 Expert Focus Group on Driver Distraction: Definition and Research Needs, US-EU Bilateral ITS Technical Task Force, April 28, 2010, accessed at: [http://ec.europa.eu/information\\_society/activities/esafety/doc/intl\\_coop/us/eg\\_driver\\_distract.pdf](http://ec.europa.eu/information_society/activities/esafety/doc/intl_coop/us/eg_driver_distract.pdf) on 13 December 2012.

<sup>2</sup> Driver distraction and driver inattention: Definition, relationship and taxonomy, Regan, Hallett and Gordon, Accident Analysis and Prevention 43 (2011), pp1771-1781.

<sup>3</sup> Submission 40, National Road Safety Council, pp1-2.

23% of all crashes involve driver distraction as a contributing factor. This is reinforced in several other studies, which also show that truck driver distraction for non-driving related activities is responsible for 71% of crashes and 46% of near crashes.<sup>4</sup>

- 2.7 In his appearance before the Committee, Professor Michael Regan from the Transport and Road Safety Research (TARS) Unit at the University of New South Wales made the following observation:

...Ralph Preslopsky...works for the Federal Motor Carrier Safety Administration in the United States. He used two crash data sets that were assembled in the United States to do an analysis. He was comparing the degree of dangerousness involved in being distracted versus being fatigued...he found that truck driver distraction was the second-most dangerous activity and for car drivers it came out as the most dangerous activity<sup>5</sup>

- 2.8 The mechanisms of distraction are complex and involve a range of sensory and cognitive processes. These can be triggered by visual, auditory, tactile, olfactory or gustatory cues<sup>6</sup> reducing performance levels and interfering with the task of road navigation.

## MAJOR SOURCES OF DISTRACTION

- 2.9 Distraction can take many forms and can emanate from a range of sources external and internal to a vehicle. External distractions include triggers such as the position of the sun and weather events; speed; advertising and other message signage in the road environment; road design; external events; and other road users.
- 2.10 According to the US National Highway Traffic Safety Administration, internal distraction sources include the following: eating or drinking; adjusting music system or radio; other vehicle occupants; moving objects in the vehicle; smoking related; using a mobile phone; using devices and objects brought into the vehicle; and using controls and devices integral to the vehicle.<sup>7</sup>
- 2.11 Risk loadings applying to such activities were described in evidence to the Committee by Professor Regan in the following terms:

For car drivers the things in rank-order that seem to be the most dangerous are: reaching for a moving object, which increased crash risk by about nine times; looking at external objects to the vehicle, which increased crash risk by about four times; applying makeup, which increased crash risk by three-times; and dialling a hand-held phone, which increased crash risk by three times. Those were the things that seemed most dangerous for car drivers. When it all boils down if you think about what is common to all those activities it is: eyes off the road, all of them that had the high risk ratios, and in the case of reaching for moving objects—something I have

---

<sup>4</sup> Submission 39, Transport and Road Safety Research, p1.

<sup>5</sup> Transcript of Evidence, 17 August 2012, p51.

<sup>6</sup> Submission 39, Transport and Road Safety Research, p3.

<sup>7</sup> Driver Distraction: A Review of the Literature, Monash University Accident Research Centre, Report No. 2016, November 2003, p3.



not mentioned—it is normally unexpected when objects are moving in your vehicle such as if there is a spider crawling around or if you drop something.<sup>8</sup>

- 2.12 Each potential source of distraction can have the effect of compromising a road user's ability to drive or ride a vehicle or safely cross the road. Examples of responses to such distraction triggers include: taking eyes off the road; taking ears off the road; taking the mind off the road (cognitive distraction); and taking hands off the vehicle controls.<sup>9</sup>
- 2.13 An analysis based on the Crashworthiness Data System (CDS) in the US conducted from 1995-1999 found that approximately 70% of reported distractions occur inside the vehicle, with the remaining 30% happening outside the vehicle.<sup>10</sup> Furthermore, it has been reported that an estimated 60% of inside-the-vehicle distractions are avoidable, as opposed to 30% outside the vehicle.<sup>11</sup>
- 2.14 The role of roadside advertising and other sources of external distraction will be discussed in greater detail later in the Report.

### Mobile phones and in-vehicle devices

- 2.15 The NSW Road Safety Strategy 2012-2021 draft consultation document refers to driver distraction, including mobile phone use, as well as research and further studies into pedestrian distraction devices, as key initiatives to pursue in the next decade.<sup>12</sup> This complements the goals of the National Road Safety Strategy 2011-2020, which include: "investigating options to minimise distraction from in-vehicle devices"<sup>13</sup>; "investigating educational and regulatory interventions to minimise the effects of driver distraction"<sup>14</sup>; and "monitoring and assessing the evidence on driver distraction associated with mobile phones and other communications devices, for identification of potential countermeasures".<sup>15</sup>
- 2.16 Although distraction has always contributed to road safety risk, the continuing development and take-up of electronic devices has greatly increased their involvement in the overall risk profile for all road users. In its 2006 inquiry into driver distraction, the Parliament of Victoria's Road Safety Committee reported on the increasingly large proportion of the population with mobile phones and their associated in-vehicle usage.<sup>16</sup> Since the time of that inquiry, mobile phone use saturation rates, combined with an explosion of the number of in-vehicle electronic devices, have resulted in a greater number of potential sources of distraction than at any previous time.

---

<sup>8</sup> Transcript of Evidence, 17 August 2012, p55.

<sup>9</sup> Submission 39, Transport and Road Safety Research, p3.

<sup>10</sup> The role of driver distraction in traffic crashes, Stutts, Reinfurt, Staplin and Rodgman, AAA Foundation for Traffic Safety (2001).

<sup>11</sup> Driver distraction: Theory, Effects and Mitigation, Regan, Lee and Young (2009).

<sup>12</sup> Road Safety Strategy for New South Wales 2012-2021, Draft for Consultation, Transport for NSW, August 2012.

<sup>13</sup> National Road Safety Strategy 2011-2020, Australian Transport Council, 20 May 2011, p77.

<sup>14</sup> Ibid, p86.

<sup>15</sup> Ibid, p93.

<sup>16</sup> Parliament of Victoria, Road Safety Committee, Report on Driver Distraction, Parliamentary Paper 209/2003-2006.

2.17 Australian take-up and ownership of mobile and smart phone technology, at 37% in November 2011, was the second highest penetration per capita in the world, after Singapore. The rapid adoption of smart phones by road users has accelerated in the past twelve months, with 80% of 30,000 Australian respondents to a Google research project reporting their recent purchase.<sup>17</sup> According to evidence presented by the Chief Executive of the Australian Mobile Telecommunications Association:

...there are now in excess of 30 million mobile subscriptions, which in a population of 22 million leaves us with about a penetration rate of 130 per cent. This obviously means a lot of us have more than one subscription. The other key factor that has occurred in recent times is the advent of the smart phone, which is in effect consummating a marriage between probably the two most powerful technological innovations we have seen in our lifetime, that being the internet and the mobile phone. This dramatically expands the use of the device away from telephony into a very broad range of applications.<sup>18</sup>

2.18 The potential safety risks of mobile phone use, particularly their impact on driving performance, have been extensively documented in research literature. Overwhelming evidence suggests that there is a significant correlation between mobile phone use and crash risk.<sup>19</sup> The nature of the risk can be visual, auditory, physical and cognitive and can affect driving performance in several ways, including: maintenance of lane position; maintenance of appropriate and predictable speed; maintenance of appropriate distances from adjacent vehicles; reaction times; judgement and acceptance of safe gaps in traffic; and general traffic awareness.<sup>20</sup>

2.19 A research survey of 1,025 NSW drivers undertaken by Roads and Maritime Services (RMS) and the Centre for Road Safety (CRS) in 2011 attempted to document driver mobile phone behaviours and attitudes. Approximately 40% of surveyed drivers admitted to the use of hands-free and 25% to the use of hand-held mobile phones in the car, with hand-held phone use being more prevalent for P2 licence holders (42%) and 16-34 age category drivers. Significantly, while 79% of respondents acknowledged that they were more likely to crash while operating a hand-held phone, 59% had no knowledge of the nature of the penalty applying to its use while driving.<sup>21</sup>

2.20 In its submission to the Inquiry, Suncorp referred to research carried out by their subsidiary AAMI Insurance as part of the annual Crash Index results. The 2012 Crash Index found that drivers list distraction as the third most significant road safety issue on the road after lack of driving skills and alcohol use. The 2013 Index will look more closely at accident statistics where distraction is cited as a contributor. In evidence to the Committee, the Suncorp Manager of Government and Stakeholder Relations reported that:

---

<sup>17</sup> Submission 29, NSW Government, p13.

<sup>18</sup> Transcript of Evidence, 24 August 2012, p24.

<sup>19</sup> Driver Distraction: A Review of the Literature, Monash University Accident Research Centre, Report No. 2016, November 2003, p3.

<sup>20</sup> Ibid, p4.

<sup>21</sup> Submission 29, NSW Government, p12.

...it is certainly an area we want to delve deeper into because we want more information in this area as well. We have seen that in terms of people's attitudes towards a willingness to indulge in risky driving behaviours we found that people's willingness towards speeding is improving, that their attitudes towards drink-driving are improving but that their attitudes towards use of technology and driver distraction are getting worse. So it is an area we intend to invest more in research and dig deeper into.<sup>22</sup>

- 2.21 Based on the 2012 Crash Index findings, more than 40% of NSW drivers between the ages of 18 and 24 admit to having sent or received mobile phone text messages while driving. Moreover, drivers themselves recognise the risks involved and 50% of respondents support a complete ban, including hands-free use, on mobile phones in the vehicle.<sup>23</sup> Another indicator of the extent of in-vehicle mobile phone use is the increase in the number of drivers penalised on NSW roads for this practice, rising from just over 20,000 in 2004/05 to in excess of 50,000 in 2010/11.<sup>24</sup>
- 2.22 These results are corroborated in an NRMA commissioned Pure Profile Research Survey of NSW drivers in January 2012, which also found that 40% used mobile phones while driving. While these figures are significantly higher than the national result of 33%, breakdowns of usage by activity, such as texting, internet use and social media tend to align with the rest of Australia.<sup>25</sup> The significance of the higher in-vehicle mobile phone usage figures in NSW, along with the need for increased vigilance and countermeasures to address the risks involved, will be developed in later chapters of the Report.
- 2.23 The rise of social media and use of mobile phones for other internet based activities compounds the safety risks associated with their increasing usage and ubiquity. This is a matter of concern for all road safety practitioners and requires creative management and risk mitigation solutions involving researchers, vehicle manufacturers and technology designers. While speech activation assists by reducing the amount of physical interaction with phones, it does not totally remove the risks associated with their use. The debate concerning the relative risks of hand-held versus hands-free mobile phones will be discussed in greater detail in the following Chapter.
- 2.24 Another prevalent source of in-vehicle distraction is the currently available range of navigation (GPS) systems, which can be mounted near the dashboard or accessed as part of a mobile phone's functionality. These have two means of creating distraction, namely when entering destination data and when receiving route data. The great variety in the operational features of such systems, their location in vehicles and their mode of access create differences in attentional demand and cognitive load for the vehicle driver.
- 2.25 Road tests carried out by the NRMA have found that drivers tend to look at GPS devices more often than necessary and the results of surveys indicate that NSW drivers are more likely to reprogram such devices while driving (40%) than the

---

<sup>22</sup> Transcript of Evidence, 24 August 2012, p14.

<sup>23</sup> Submission 18, Suncorp Group Limited, p4.

<sup>24</sup> Ibid, p6.

<sup>25</sup> Submission 23, NRMA Insurance, p4.

national average (30%). Such practices apply particularly to younger male drivers.<sup>26</sup>

- 2.26 A special case has been made in evidence provided by the NSW Taxi Council, whose members use proprietary dispatch and communication equipment, also incorporating a GPS device, for their passenger booking system and for tracking vehicles. The Taxi Council argues that these devices should be exempt from regulatory controls as the hardware is designed and mounted according to Australian Design Rules and has text-to-speech capabilities limiting visual and physical distraction.<sup>27</sup> The placement of electronic devices in the vehicle cabin will be discussed later in the Report.
- 2.27 New motor vehicles now come equipped with a variety of electronic music and entertainment systems, some of which can be operated from the steering wheel. The convergence of media and technology with electronic devices compounds the distraction effects of these systems. This, combined with GPS and mobile phone devices, creates greater competitive pressures to maintain safe driving performance in the face of increasing attentional demands.
- 2.28 While car manufacturers are attempting to respond to these challenges, the evolution of this new technology is outpacing the ability to monitor their effects on road safety and to minimise safety risks. However, improved safety technology and electronic monitoring of driver alertness and attention focus may also be able to assist with improving driving performance and lead to safer outcomes. This will be explored in greater detail in the following Chapter.

### Other in-vehicle distractions

- 2.29 Submissions to the Inquiry have referred to numerous non-electronic sources of driver distraction, including: eating and drinking; grooming; smoking; interacting with passengers; and unexpected occurrences within the cabin, such as moveable objects shifting or the unpredictable actions of pets. These activities and occurrences have the potential to compete for the driver's attention and compromise the driving task.
- 2.30 The NRMA refers to a recent study by the Institute for Transport at Leeds University, which found that driver reaction times increased by 44% when eating behind the wheel and by 22% when sipping a drink. Drivers were also 18% more prone to poor lane control when drinking behind the wheel.<sup>28</sup>
- 2.31 A survey of 500 NSW drivers conducted by NRMA Insurance in 2010 revealed that: 37% of drivers in the sample argued with a passenger; 36% ate fast food; 27% drank coffee or tea; 15% ate breakfast; and 6% carried out personal grooming, including applying makeup, shaving and brushing teeth. These figures are largely consistent with national survey results.<sup>29</sup>

---

<sup>26</sup> Ibid, p6.

<sup>27</sup> Submission 16, NSW Taxi Council, p10.

<sup>28</sup> Submission 23, NRMA Insurance, p8.

<sup>29</sup> Ibid.

- 2.32 Non-electronic distractions are difficult to regulate and are not perceived to be particularly risky by drivers themselves, which makes it imperative to conduct regular intensive education programs and safety campaigns. The impact of passenger distractions for novice drivers is an area which should receive priority as part of the licensing system. This will be further developed in Chapter 5.

### Vulnerable road users

- 2.33 As already outlined, most of the evidence concerning distraction gathered to date relates to its impact on drivers. The Inquiry's terms of reference require the Committee to also examine its impact on other road users, in recognition of the increasing take-up of electronic music systems and devices by cyclists, pedestrians and others who use the road network.
- 2.34 The submission from TARS refers to the existence of only four published studies on pedestrian distraction.<sup>30</sup> This is despite the fact that the mechanisms for distraction for pedestrians and cyclists would be identical to those of drivers. Of the studies conducted, a number of observations have been made.
- 2.35 One US study, conducted in 2005, defined distracted pedestrians as wearing head phones, talking on mobile phones, eating, drinking, smoking or talking as they were crossing the street. Of the 866 pedestrians observed, only 14% looked left and right when entering a crosswalk and 20% were judged to be distracted when crossing the road. An Australian observational study conducted in 2007, concluded that talking on a phone while crossing the road "...is associated with cognitive distraction that may undermine pedestrian safety".<sup>31</sup>
- 2.36 These findings were reinforced in two further studies in 2008, which found that: "cognitive distraction from mobile phone use reduced situation awareness, increased unsafe behaviour, putting pedestrians at greater risk for accidents, and crime victimization."<sup>32</sup> A later study conducted in 2011 supported the conclusion that, for pedestrians, cognitive diversion due to conversations is far more significant than listening to music.<sup>33</sup>
- 2.37 An additional factor to be taken into account is the age of the vulnerable road user. As part of the maturational processes governing an individual child's development, children have "... limited ability to judge speed, have limited peripheral vision and limited ability to locate the direction of sound".<sup>34</sup> Some older road users also experience age related impairments, which may compromise their cognitive planning processes and restrict their physical agility when crossing the road.<sup>35</sup>
- 2.38 Cyclists are particularly exposed on the road system and need to be vigilant and aware of their surroundings. Studies conducted in the Netherlands in 2010 and 2012 revealed that "... use of mobile phones coincided with reduced speed,

---

<sup>30</sup> Submission 39, Transport and Road Safety Research, p8.

<sup>31</sup> Ibid, p9.

<sup>32</sup> Ibid.

<sup>33</sup> Submission 29, NSW Government, p43.

<sup>34</sup> Ibid.

<sup>35</sup> Ibid, p44.

reduced peripheral vision performance and increased risk and mental effort ratings. Text messaging had the largest negative impact on cycling performance".<sup>36</sup> Bicycle crash risk also increases with greater use of electronic devices. It is estimated that crashes are 1.4 times more likely for cyclists who use devices during every trip and 10% of all bicycle crashes are preceded by the use of such a device.<sup>37</sup>

- 2.39 These results indicate that much more systematic research into the impact of distraction on vulnerable road users, specifically examining age and gender related effects, needs to be undertaken, taking account of the increased use of entertainment and other electronic devices while travelling. This should be augmented by stronger targeted education and marketing campaigns and will be developed in more detail in subsequent Chapters.

## FACTORS INFLUENCING DISTRACTION IMPACT

- 2.40 As previously discussed, it is not possible to precisely define the role of distraction in the complex mix of factors that give rise to crash risk. However, a range of contributors can be identified which have an impact on the skills and functions needed to navigate the road system safely. These include road user characteristics, task demand and self-regulation strategies.<sup>38</sup>
- 2.41 In the wide range of variables determining an individual's ability to deal with distractions as they arise, specific road user characteristics such as age, gender, past experience, degree of familiarity with distracting tasks, personality traits and mental alertness all play a role. Less experienced road users, particularly drivers who have yet to become fully proficient in the driving task, may have less attentional capacity to manage competing activities. This attentional deficit can be exacerbated by unfavourable traffic, weather and road conditions, passenger characteristics, vehicle design and speed.
- 2.42 Professor Regan, from the Transport and Road Safety (TARS) Research Unit at UNSW, refers to secondary task demands such as the compatibility of the distracting task with the road navigation task and its complexity, predictability, frequency and duration as important in determining its level of impact on the primary task.<sup>39</sup> This leads to the final factor influencing outcomes in Professor Regan's analysis, namely that of self-regulation.
- 2.43 In this context, self-regulation is the ability of road users to modify and regulate their behaviour in anticipation of or in response to a distracting event "...at the strategic, tactical and operation levels of control."<sup>40</sup> This may involve turning off mobile phones, reducing conversation or, in the case of drivers, reducing speed during phone conversations.
- 2.44 Professor Regan, in evidence to the Committee, described this in the following terms:

---

<sup>36</sup> Ibid.

<sup>37</sup> Ibid, p45.

<sup>38</sup> Submission 39, Transport and Road Safety Research, p4.

<sup>39</sup> Ibid, p5.

<sup>40</sup> Ibid.

Quite a bit of research has been done on this topic. It shows firstly that when you are driving with a passenger they can see what is happening in front of the car and so what they do is, without them even realising most of the time, reduce the frequency with which they talk, the content of the talk becomes less complicated. They are self-regulating to support the driver so that they do not overload the driver, especially in high workload conditions. So when they go through an intersection an experienced passenger certainly is more likely either to stop talking or to moderate the conversation. The other thing is when you are on the phone there are often social imperatives to keep talking; it could be your boss or someone you really feel that you need to keep talking to. Hence, by doing that you do not self-regulate in the way that you normally would so you might not slow down as much and you might not increase your headway and do things because your attention is captured by the conversation. The other thing is it is much harder. When you talk on a phone, especially when you have a bad reception, it takes more cognitive capacity and so it is just harder. They are probably the three main reasons.<sup>41</sup>

- 2.45 The National Road Safety Council (NRSC) reinforces the factors referred to in the TARS submission. According to the NRSC submission, in cases where distraction contributes to a crash it is due to the lack of sufficient attention or processing resources to perform a primary task. Therefore, it is contingent on the amount of attention required for the primary task, combined with how much attention and processing the distractor absorbs and how much attention and processing capacity the road user has available to perform the primary task.<sup>42</sup> The ability to manage cognitive load factors in situations of competing attentional demand will greatly influence any potential crash outcome.
- 2.46 The ability to self-regulate and manage competing priorities will also be influenced by the added involvement of alcohol, drugs, medication, illness and fatigue. According to Professor Regan, most research work and countermeasures to date have focused on task demand and insufficiently on self-regulation strategies. This is an area which the Committee thinks would benefit from greater attention and research.

## MEASUREMENT AND DATA COLLECTION

- 2.47 Reliable measurement of the role of distraction in road safety statistics is problematic. Lack of data availability for mobile phone use was highlighted in the submission from the Ministry for Health, which referred to the difficulties of its identification in administrative data sets based on injury coding.<sup>43</sup> According to NSW Police, the use of mobile phones and other devices is under-reported because of difficulty in detecting their use in crash events. This is due to the inability to source information from the crash scene, which requires a witness report and police access to phones or text logs.
- 2.48 The Assistant Commissioner for Traffic and Highway Patrol, NSW Police discussed this at the Committee's hearing. He told the Committee:

Where there is a fatality police will look at the issue of mobile phone usage where possible to see if that is a contributing factor. In fact, since 2005, nine cases have

---

<sup>41</sup> Transcript of Evidence, 17 August 2012, p49.

<sup>42</sup> Submission 40, National Road Safety Council, p3.

<sup>43</sup> Submission 26, Ministry for Health.

been identified where we can definitely say that mobile phone usage was involved in that fatality. Quite simply, no-one admits to using their mobile phone whilst they are driving if they are involved in a crash and I would say that every day we all see many, many drivers using mobile phones while driving. Many more get away from police than are caught... Obviously we have to apply to a mobile phone carrier to provide information, which is time consuming and sometimes can be expensive if you are calling for call records. We need some sort of information system from the mobile phone carrier that would give us the time, date and place that the phone was being used when a crash occurred. I do not believe that technology is available at this stage for any other agency within Australia and certainly I have seen no overseas research that shows they can get it quite easily.<sup>44</sup>

2.49 In a further response to written questions after the hearing, Assistant Commissioner Hartley told the Committee that no powers are currently prescribed under Road Transport legislation compelling a driver involved in a crash to give police access to or to compel the surrender of a mobile phone. While phones may be seized pursuant to the Law Enforcement Powers and Responsibilities Act, this requires supporting evidence that the phone was used at the time of the crash. A complicating factor is that call records in themselves may not conclusively prove that the phone was being used at the precise time of impact, as this may be difficult to establish.<sup>45</sup>

2.50 In the absence of comprehensive and accurate police records concerning the involvement of distraction at a crash scene, road safety practitioners and policy makers have had to rely on findings obtained from research studies. The following provides examples of research designs employed to date and their inherent methodological strengths and weaknesses.

### Laboratory studies

2.51 A typical laboratory study measures driving ability and proneness to error assessed in a driving simulator while using or not talking on a mobile phone. While these studies enable control for factors such as task complexity, randomised subject assignment and objective performance measurement, they lack real world validity. This makes analysis of results difficult to apply outside the test situation.<sup>46</sup>

### On road observations

2.52 Such research is commonly used to comparatively assess the performance and behaviour of pedestrians with or without mobile phones or audio devices when using the road system. While these studies are conducted in real world settings and without any perceived observer awareness, the subjects are not randomly assigned and this may reflect an inherent bias towards individuals prone to risk-taking and sensation seeking behaviour.<sup>47</sup>

---

<sup>44</sup> Transcript of Evidence, 17 August 2012, p18.

<sup>45</sup> NSW Police Force, Answers to Supplementary Questions, 10 September 2012.

<sup>46</sup> Submission 40, National Road Safety Council, p4.

<sup>47</sup> Ibid.



## Case control self-report studies

- 2.53 These studies involve comparing the behaviour of drivers involved in a crash while using a mobile phone with controls such as other drivers who did not crash. This methodology has limitations in that it relies significantly on self-reporting, can result in sample bias from non-participation and does not have randomised assignment of participants.<sup>48</sup>

## Naturalistic driving studies

- 2.54 Large scale naturalistic studies provide the best available estimates of sources of distraction posing the greatest safety risk to car and truck drivers.<sup>49</sup> The methodology involves long term observation of drivers by use of continuous video recording of behaviour and driving circumstances, using multiple cameras. The studies reveal specific information about the sources of distraction which appear to pose the greatest risk to driver safety. It enables the documentation and assessment of actual crashes and the observation of driver behaviour over an extended period.
- 2.55 Evidence from controlled studies demonstrates that distracting activities resulting in taking the driver's eyes off the road are deleterious to driving performance. Failure to react due to cognitive distraction is more difficult to measure and verify. However, although distraction effects vary depending on the research methodology employed, all results indicate that mobile phones are harmful to safe driving. An analysis of naturalistic studies conducted in the US highlights that competing activities resulting in taking eyes off the road, such as texting, results in higher risk.
- 2.56 A seemingly perverse finding is that driving a truck when listening to the radio or talking hands-free may have a protective effect. This is thought to be due to breaking the monotony of long distance driving by maintaining alertness.<sup>50</sup> This finding was also referred to by the General Manager for the Centre for Road Safety when appearing before the Committee:

What we have done is start researching that element. What we know is that the hands-free component of it can address other issues, such as fatigue—by keeping people chatting and quite awake and up and at them as they are driving. What we have learned through the research is that it is interacting with the telephone—pressing a button, texting and looking at the phone—that is the most dangerous behaviour. It is the interaction with the telephone, it is the reading, the touching and becoming absorbed in that, rather than looking at the road ahead that is far more dangerous, according to the research, than is hands-free.<sup>51</sup>

- 2.57 The Transport and Road Safety Research (TARS) Unit is in the process of developing a research program involving the instrumentation of vehicles to observe drivers in a naturalistic setting. This project is designed to deploy 600 vehicles on the road across NSW and three other States and was referred to in evidence taken from the General Manager of the Centre for Road Safety:

---

<sup>48</sup> Ibid.

<sup>49</sup> Submission 39, Transport and Road Safety Research, p5.

<sup>50</sup> Submission 40, National Road Safety Council, p6.

<sup>51</sup> Transcript of Evidence, 17 August 2012, pp4-5.

...we are embarking nationally on a naturalistic driving study: this is going to be the goal in terms of collecting information for us. It is where a camera is actually put in a participant's vehicle who has signed up, and it actually looks at how they interact with different distractions inside and outside the vehicle. The data that has come from Virginia Tech in the United States from its naturalistic driving study has actually proven to be very valuable in showing us what is actually happening to the driving tasks through the interaction of these devices. We really are quite excited about the naturalistic driving study, and the Centre for Road Safety is actually going to pilot the first two vehicles to test the logistics of this within the next year, hopefully.<sup>52</sup>

2.58 This research study will provide a valuable source of information on which to base interventions and to design countermeasures. While academic studies provide essential evidence for research, it is also important to have accurate locally sourced data to guide policy for motorists in NSW. This need is recognised by the Deputy Director General of Transport for NSW, who made the following observation:

As I have indicated, as a policy area we probably know least about driver distraction, the cognitive responses from drivers both in the vehicle and for pedestrians so it is an area where we need to continue to collect information over the next short term period. As I indicated, I believe it will be one of the, if not the policy area for us to focus on for the next five to 10 years. Certainly that is what our draft road safety strategy indicates. In relation to the research we need to undertake, we would concur with the comments made by the University of New South Wales in terms of the data that is available at the moment. We internationally need to collect a lot more data in this area because technology is moving at a speed and we are bringing that technology into our vehicles where we do need to understand what it means for distraction. As I indicated, distraction is not a matter for driving distraction, it is a matter about other things we are doing whilst we are driving. We do need to go through a lot more work in terms of safer people and the specific areas we have in the Centre for Road Safety to collect research from a whole range of angles.<sup>53</sup>

2.59 The Executive Director of the National Road Safety Council provided some useful commentary on the current lack of data and its collection. In evidence to the Committee, Dr Job said:

In terms of how we would collect the data, as I said I do not know of a study occurring on this subject, but I think that it is not impossible to conduct such a study. What we need to know, though, is: Are we collecting all of the crashes at that location? Can we focus to ensure that we collect all of the crashes at that location? Can we do a before-and-after study at that location? Can we get enough locations together so that we could find a real difference? I think it is possible to do that study but it is not happening now. I would also say that it could almost also be done retrospectively. It would be a significant resource to do it, but if we were to deliberately select locations where we had an exact time—when we went from a static billboard to a moving billboard or something like that, or when a new billboard went up—and we had a long-term analysis of crashes at a location or at many locations, then it is possible we could do this.<sup>54</sup>

---

<sup>52</sup> Ibid, p6.

<sup>53</sup> Ibid.

<sup>54</sup> Ibid, p65.

- 2.60 The Centre for Road Safety acknowledges that more analysis needs to be done in the area of distraction, specifically for pedestrians and cyclists, in order to respond appropriately. From an economic perspective, according to figures from the Motor Accidents Scheme, "pedestrians cost approximately double what a driver does". This results in an average claim of \$180,000 per pedestrian as opposed to \$70,000 to \$80,000 per driver and does not account for other related costs to the community.<sup>55</sup>
- 2.61 In the absence of accurate distraction specific data collection through the Crashlink data system, it is the Committee's view that more work should be done by administrative and legislative means to improve the evidence base relating to distraction as a factor in injury and fatality statistics. This will be further developed later in the Report.

---

<sup>55</sup> Ibid, p6.

## Chapter Three – Trends in Electronic Device Technology

- 3.1 The latest developments in motor vehicle design now incorporate a range of electronic device compatibility controls to meet consumer demand for interconnectivity and social communication. This has resulted in a significant increase in the use of electronic technology in vehicles, much of which offers potential safety benefits while also creating greater risks of distraction.
- 3.2 The most popular devices brought to the Committee's attention as potential distraction risks were: mobile telephones; satellite navigation systems; and vehicle entertainment systems. Other emerging technologies which are becoming more prevalent will be examined later in this Chapter.
- 3.3 In addition to personal devices which interact with the driver or other occupants of a vehicle, further developments in technology may also assist in combating distraction and lessen the risk of inattention. Car manufacturers are introducing systems and technologies that will compensate for driver inattention or mediate in-vehicle distractions.

### CURRENT UTILISATION OF IN-CAR AND OTHER DEVICES

#### Mobile telephones

- 3.4 As already highlighted in the previous Chapter, mobile phone usage in Australia is very high and continuing to increase in popularity, with reliance on a range of expanded functions. The growth of smart phone ownership in Australia is reflected in higher take-up rates in NSW than in other States and Territories.
- 3.5 NRMA Insurance notes that "a 2011 study conducted by Google with Ipsos Research found that Australia has the second highest smart phone penetration in the world behind Singapore at 37%".<sup>56</sup> The Committee was told that this trend is likely to continue, according to representatives from the Australian Mobile Telecommunications Association (AMTA):
- ... by the end of 2014 we expect smart phone usage in this country to be in the order of 90-plus per cent of the 30 million subscriptions, which will probably be 35 million by then. The availability of top-end devices is there for all age groups. Even so the downward pressure on price and the need to be competitive mean the features you are talking about are present in a very large number of phones at all price points.<sup>57</sup>
- 3.6 In addition to the traditional use of mobile phones to make phone calls and send messages, smart phones have increased their functionality in the following categories: taking photos and video footage; listening to music; browsing the internet; accessing maps; navigational tools; sending emails; playing games; and using other specific applications.

---

<sup>56</sup> Submission 23, NRMA Insurance, p2.

<sup>57</sup> Transcript of Evidence, 24 August 2012, p28.

3.7 Research conducted by NRMA illustrates that people are using these functions while driving on NSW roads. According to a survey of 415 NSW drivers about their use of mobile phones while driving, 40% used their phone while driving for the following activities:

- 88% made phone calls;
- 68% texted and read emails;
- 40% used applications – e.g. checking the weather forecast, news headlines;
- 38% took photos; and
- 25% updated their Facebook status or tweeted.<sup>58</sup>

3.8 As stated in the previous Chapter, the safety risks of mobile phone use and its impacts on driving performance has been well documented with research showing that there is a strong link between mobile phone use and crash risk. The dangers of making a phone call while driving were outlined in the submission from Holdings Driver Training:

In 2006, a study by the National Highway Traffic Safety Administration reported that, "Dialling a hand-held device increases a driver's chance of being involved in a vehicle crash by 3 times and listening or talking on such device increases the crash risk by 1.3 times".<sup>59</sup>

3.9 Of particular concern, however, is the level of distraction caused when drivers use their phones for other purposes. Sending text messages, accessing the internet, or employing other functions, require more active interaction with the phone. This means that more time is spent focussing elsewhere than the road ahead, compromising the driving tasks. Professor Regan highlighted his concerns, as follows:

...we need to discourage visual-manual interactions. We know particularly from the research that has been done by Virginia Tech in the United States that having the eyes off the road and engaging in manual activities—for example, texting—is particularly dangerous. They involve cognitive activity, taking your mind off the road, taking your eyes off the road and we know that if your eyes are off the road for certainly more than two seconds there is a doubling in crash risk. That is quite clear from the work that has been done in the United States. The manual interactions themselves can be quite complex.<sup>60</sup>

3.10 This was also reinforced by representatives from Roads and Maritime Services who stated that:

What we have learned through the research is that it is interacting with the telephone—pressing a button, texting and looking at the phone—that is the most dangerous behaviour. It is the interaction with the telephone, it is the reading, the

---

<sup>58</sup> Submission 23, NRMA Insurance, p4.

<sup>59</sup> Submission 27, Holdings Driver Training, p 6.

<sup>60</sup> Transcript of Evidence, 17 August 2012, p48.

touching and becoming absorbed in that, rather than looking at the road ahead that is far more dangerous, according to the research, than is hands-free.<sup>61</sup>

- 3.11 In naturalistic studies conducted by the Virginia Tech Transportation Institute, text messaging on a mobile phone was found to increase the risk of a crash or near crash event by 23 times compared to non-distracted driving.<sup>62</sup> Given the actions required to access other functions of a smart phone, such as reading email, browsing the internet or playing games, it is likely that these activities would carry a similarly high risk.
- 3.12 Hands-free technology represents a recent improvement in mobile phone functionality. This can be achieved via Bluetooth which integrates with a vehicle's own systems, including the speakers. It may also interact with the dashboard display, or consist of a 'hands-free kit', which usually includes earphones and a small microphone plugged into the phone.
- 3.13 Some research evidence has called into question the safety of having any form of conversation while in a vehicle. For example, according to the submission from the NSW Government:

A hands-free mobile phone reduces the need for manual resources. However, a hands-free mobile phone still requires the same level of cognitive resources during a conversation. Previous research has found that the difference in crash risk between hand-held and hands-free mobile phone conversations is "minimal and potentially negligible" (Drews & Strayer, 2009, p185).<sup>63</sup>

Concerns were also raised that drivers wearing earphones "will not hear cues that would otherwise be very valuable to [them]."

- 3.14 Nevertheless, a key factor in retaining control of a vehicle, should distraction occur, is to keep both hands on the wheel. As the use of hands-free functions for phones allows this to occur, it is seen as preferable. Due to the potential distraction effects of phone conversations, there are situations where calls should be avoided. The Australian Mobile Telecommunications Association highlighted advice which they provide to consumers:

We say repeatedly that all of those data uses where you take your eyes off the road are illegal and you should not do them, but also, if it is a heavy traffic situation, if it is a bad weather situation, if road conditions are not appropriate, or if you are about to have the mother of all fights with one of your family, do not use your phone. Do not take calls when those situations are occurring. It is much better that you focus on driving.

These include tips which highlight the illegality of using a hand-held device but also place a lot of emphasis on sensible use. Even with a hands-free device, if road, traffic or weather conditions are not appropriate, do not take the call. Use message bank. If you are going to have a long, complex and potentially emotional discussion, wait

---

<sup>61</sup> Transcript of Evidence, 17 August 2012, pp4-5.

<sup>62</sup> Submission 31, Australian Mobile Telecommunications Association, Appendix C.

<sup>63</sup> Submission 29, NSW Government, p7.

until you are not driving a car. We are very pragmatic on these issues in highlighting safety rather than carte blanche use.<sup>64</sup>

3.15 While the Committee considers that, where possible, drivers should refrain from making phone calls, essential calls should be conducted via Bluetooth. This assists in minimising physical distraction by accessing the vehicle's speakers via an external microphone. The Committee supports the greater use of this technology as Bluetooth becomes standard equipment in new vehicles and phones.

3.16 In order to facilitate the safe use of mobile phones in a hands-free capacity, the Committee also supports new legislation which stipulates that drivers may not touch a mobile phone while the vehicle's engine is running and mandates that the phone should be mounted in a cradle located in an appropriate location. The representative from the Australian Mobile Telecommunications Association voiced strong support for the use of the cradle:

The cradle is absolutely essential. It does one important thing: It renders the device stationary and it brings it up to eye level. It is consistent with all of the research that says that the stand-out parameter here is keeping your eyes on the road.<sup>65</sup>

3.17 Further discussion concerning the placement of devices in the vehicle cabin can be found in the following Chapter.

3.18 A further advance in mobile phone technology in recent times is that of voice recognition. A representative from Suncorp told the Committee:

This means that voice activation and voice management of phones and devices is becoming, and will become, more common. Things like being able to send texts or to choose prearranged text responses without having to pick up the phone or look at the phone or take your eyes off the road will help improve things. Your mind is still distracted but at least your eyes and hands are where they should be. There will certainly be some benefits brought to this area through the technology itself as the technology evolves.<sup>66</sup>

3.19 Voice commands enable drivers to dial phone numbers or send text messages, as well as keeping both hands on the wheel and maintaining a steady focus on the road ahead, rather than glancing at a phone.

3.20 A counter argument is that voice-activated dialling can lead to overconfidence on the part of drivers, as they are still cognitively distracted but consider that they are performing in a safe manner. Due to its nature as an emerging technology, there can also be frustrations caused by imprecise responses to voice prompts. Further research and development is required before greater promotion of voice recognition should occur, but the Committee is in favour of solutions which allow a driver to access a mobile phone with the least possible physical involvement.

---

<sup>64</sup> Transcript of Evidence, 24 August 2012, p29.

<sup>65</sup> Ibid, p26.

<sup>66</sup> Ibid, p12.

- 3.21 The Committee also heard that in certain situations, the ability to make a phone call while in a vehicle can be beneficial and improve safety. The submission from the AMTA refers to a study from the University of Sydney which found that:

...one in eight (or 623,220 users) have reported a road accident involving others; and two out of three users had used their mobile phone to call ahead and say they were running late, and that almost all of these had consequentially slowed or calmed down as a result.<sup>67</sup>

- 3.22 Similarly, the Pedestrian Council of Australia told the Committee that:

... the mobile phone ... has been the greatest device in letting the paramedics get to a crash within the golden hour. When I was first driving in the bush, it could take half an hour to an hour to find a phone box or some phone to call someone and then it would be an ambulance coming from Newcastle or something. Now it is a call, possibly from one of the victims inside the car, and a helicopter is there within the golden hour.<sup>68</sup>

- 3.23 Differences in driving skill proficiency and their impact on distraction, together with the safety benefits of conducting a conversation using a hands-free kit, are reflected in the current Road Rules. These require that drivers, other than learner and Provisional P1 licence holders, can only use a mobile telephone if it is in an appropriate cradle or can be operated without being held.

- 3.24 Changes made in November 2012 also clarified the rules prohibiting the use of phones for all other functions such as texting, emailing or video calling. Further discussion of the regulatory controls surrounding the use of electronic devices in vehicles can be found in the following Chapter.

### Global Positioning Systems (GPS)

- 3.25 Another potential source of distraction which is becoming increasingly common in vehicles is the use of Global Positioning Systems [GPS]. Whereas many newer vehicles now have GPS as a standard feature, they are easy to buy and install in older cars. It is also common for smart phones to have GPS functionality.

- 3.26 The distractions arising from using a GPS are outlined by the NSW Government:

Entering destination information is believed to be the most distracting task associated with the use of a route guidance system; however use of voice input technology can reduce the distraction associated with this task.

Route guidance systems that present navigation instructions using voice output are less distracting and more usable than those systems that present the information on a visual display.

Route guidance systems that provide turn-by turn instructions, rather than presenting complex holistic route information, are less distracting to the driver and present the most useable means of navigation.<sup>69</sup>

---

<sup>67</sup> Submission 31, Australian Mobile Telecommunications Association, p47.

<sup>68</sup> Transcript of Evidence, 24 August 2012, p4.

<sup>69</sup> Submission 29, NSW Government, p17.



The key point is clearly that the less a driver interacts with the device physically, the less the risk of distraction.

- 3.27 Distraction caused by GPS applications appears to be a common problem in NSW according to NRMA Insurance:

As part of attitudinal research in 2012 40% of NSW drivers said they change the route on their GPS while driving (compared to the national figure of 30%). Men were more likely than women to reprogram their GPS while driving (33% to 25%) as were younger drivers (39% of 18-24 year olds).<sup>70</sup>

- 3.28 Another issue associated with GPS devices is that drivers are prone to look at them more frequently than required and therefore take their eyes off the road. In its submission, NRMA Insurance describes a test involving drivers using a GPS device on an unfamiliar urban route. They found that:

The road test revealed that drivers glanced at the GPS around 90 times for an average of 1.2 seconds. This means, when travelling at 60 km/h, they were looking away from the road for up to 19 metres at a time – or more than four car lengths.<sup>71</sup>

This demonstrates the importance of drivers using the voice prompts on their devices in order to reduce the necessity to look at the screen.

- 3.29 The increase in GPS applications becoming available for smart phones was referred to by Suncorp, which reported that the percentage of people who use a smart phone as a navigation tool rose from 7.9% in 2011 to 12% in 2012.<sup>72</sup> While these are popular with consumers and may reduce the number of devices in a vehicle, the Committee heard concerns that the use of mobile phone-enabled GPS applications and specialist devices may lead to further distraction.

- 3.30 In addition to the average smart phone having a smaller screen than a GPS device, they also often lack the audible turn-by-turn navigation, so the driver has to pay more attention to the phone.<sup>73</sup> If their popularity continues to rise, this may be an area requiring further attention.

- 3.31 An important factor in managing the potential distraction effects of GPS devices is their placement in the vehicle to ensure that they are easy to glance at for the driver but do not create significant blind spots. The safest place to mount a GPS device is in the bottom right of the windscreen as not only does this cause the smallest blind spot, it also avoids the potential problem when driving at night, as highlighted by the NSW Government:

... installing solid navigation (GPS) devices directly in front of the driver not only obscures their view of the road ahead, but at night, unless the device has an automatic dimming feature, exposes the driver to a bright light source which significantly reduces their effective night vision (it is very difficult to clearly see a

---

<sup>70</sup> Submission 23, NRMA Insurance, p6.

<sup>71</sup> Ibid.

<sup>72</sup> Submission 18, Suncorp Group Limited, p7.

<sup>73</sup> Ibid, p11.

dark object outside the vehicle that is positioned beyond a bright light source inside the vehicle).<sup>74</sup>

- 3.32 While GPS devices have potential to create distractions, they can also have other significant safety benefits. The NRMA Insurance submission outlines some of these advantages:

Mobile GPS units and other satellite navigation systems have considerable potential to improve the ability of drivers to drive safely. Provided equipment is used correctly, drivers are much less likely to become lost and disoriented when using a GPS unit. They also reduce reliance on traditional maps which are potentially extremely distracting even with a passenger reading a map and providing directions. Further, GPS units have the option of voice commands reducing the need for drivers to take their eyes off the road. Research conducted in the United Kingdom by automotive products retailer Halfords found that drivers who use satellite navigation argue less with passengers and make fewer insurance claims than those who rely on traditional maps.<sup>75</sup>

- 3.33 Other safety benefits of GPS technology are emerging, such as the use by Suncorp of a 'Better Driver' system. This system arose from a study in 2007 which used GPS to track the behaviour of drivers in relation to choice of routes and speed and reward better practices such as obeying speed limits. The drivers were able to access the data online, were made aware of their risky behaviour and able to make improvements. This was developed into the Better Driver system which is offered to drivers along with a discount to encourage safer driving habits.<sup>76</sup>

- 3.34 The Committee sees GPS devices as useful tools to improve road safety as long as appropriate steps are taken to minimise potential distractions by using auditory instructions and safely mounting the devices in an appropriate position.

### Entertainment systems

- 3.35 In-car entertainment systems have been a long standing feature of most models of cars. The increasing complexity of these systems creates potential safety risks associated with changing tapes, CDs or radio stations. According to NSW Government research, the most common devices used when driving are radios (50%) and CD players (31%).<sup>77</sup>

- 3.36 A more recent development for in-car entertainment is the connectivity of mp3 players or smart phones which can stream music through vehicle speakers. Provided the smart phone is properly mounted, as discussed earlier, an argument can be made that choosing what to play is the same as interacting with a radio or CD player. However, as already highlighted, drivers should avoid manual distraction as much as possible. Choosing a song on a smart phone or portable music device usually involves more complex actions, such as scrolling, as opposed to single buttons on specialised in-vehicle music players.

---

<sup>74</sup> Submission 29, NSW Government, p18.

<sup>75</sup> Submission 23, NRMA Insurance, p6.

<sup>76</sup> Submission 18, Suncorp Group Limited, pp9-10.

<sup>77</sup> Submission 29, NSW Government, p11.

- 3.37 One solution to this problem has been the installation of entertainment controls on the steering wheel. This allows drivers to keep their eyes on the road and their hands in an appropriate position, and the Committee hopes this will increasingly become a standard feature for all models of vehicles.
- 3.38 The integration of smart phones, however, has other safety implications where certain car manufacturers are allowing users to access additional functions on their devices, such as browsing the internet or using social media, through a screen on the vehicle's dashboard. Although at an early stage, such systems are becoming more prevalent and are driven by consumer demand. The NSW Government, in its submission, stated that:
- The phenomenon of vehicle connectivity is being driven by consumer demand, and vehicle manufacturers in a highly competitive market rushing to meet that demand and attract potential buyers. Drivers aged under 30 in the US consider vehicle connectivity options as being the second most important consideration when buying a new car.<sup>78</sup>
- 3.39 While safety aspects have been considered by some vehicle manufacturers, who design systems to be inoperative while the vehicle is in motion, the Committee considers the decision to enable further distractions in a vehicle requires close monitoring as it develops.

### Other technologies

- 3.40 Specialist technologies highlighted by a number of stakeholders include those used by professional drivers such as taxi dispatch systems, which require significant and frequent interaction during drivers' shifts.
- 3.41 As part of the Passenger Transport Regulation 2007, taxis must be fitted with: a taxi meter; a duress alarm system; a vehicle tracking device; and security cameras. There are visual elements to most of these devices, with the potential to distract drivers.
- 3.42 According to the NSW Taxi Council, efforts are made to keep the distractions to a minimum. Their submission states:
- The hardware used in taxi dispatch systems is designed and mounted in accordance with Australian Design Rules. It has text-to-speech capabilities, allowing the driver to receive instructions from a call centre without looking at the screen; in other words the pick-up address is vocalized for the driver. While dispatch messages are also displayed on the vehicle's in-built screen, these messages are very short, require a minimal (two second) glance at the screen and no other action by the driver other than pushing a single button which responds with a predetermined, pre-programmed message...In short, while they could be described as in-vehicle electronic devices, taxi dispatch systems have been specifically designed to reduce road and vehicle related hazards and minimize distraction for drivers.<sup>79</sup>

Further discussion of this issue is covered in Chapters 4 and 6 of the Report.

---

<sup>78</sup> Submission 29, NSW Government, p20.

<sup>79</sup> Submission 16, NSW Taxi Council, pp3-4.

3.43 When looking at proprietary devices used by professional drivers, the Committee recognises that these drivers receive specialised training and have greater experience of and familiarity with their own technology. For this reason, professional drivers are in a different category to other drivers, although safety issues should still be monitored. Representatives from the NSW Government told the Committee that:

The dispatch devices that are in buses, taxis and other public transport are core to the task the drivers are performing. They are also professional drivers. You could look at a heavy vehicle cab and know there are a lot of devices in there. They are professional drivers and they are used to interacting with those devices. We do monitor it closely and we are looking, from a workplace safety and a public safety perspective, to address any issues that are raised in respect of potential danger in relation to that use. The fact that they are professional drivers gives us some comfort in relation to safety.<sup>80</sup>

3.44 A new development raised by the taxi industry relates to the increasing number of smart phone applications which can be used to book taxis. Some of these applications are run through the taxi companies themselves and are used in the same way as bookings over the phone or online. They appear through the official dispatch system and therefore maintain the safety and integrity of the established booking mechanism.

3.45 Other applications, however, are also being developed which enable direct contact with taxi drivers, provided they have the same application. Not only does this encourage drivers to interact with their phone for longer periods of time leading to distraction risks, but may also constitute a danger for passengers who may be offered a lift from an unauthorised taxi service.

3.46 The convenience of booking a taxi by using a regulated application is of benefit to passengers and does not seem to pose a significant concern. The unofficial applications, however, may pose a safety risk as they encourage greater phone use by taxi drivers in reading and responding to messages and may lead to bookings being responded to by a non-registered taxi service. This issue is further developed in later Chapters.

## EMERGING TECHNOLOGIES

3.47 A constant theme of this Inquiry is the rapid development of technology, both in hand-held personal devices and in vehicle integrated systems. Continuing innovation in the sector has resulted in technology which can also provide solutions to the problem of information overload identified earlier.

3.48 A useful tool which has been developed to manage information flow while driving is known as the workload manager. Such devices can identify the driving conditions and the workload level of the driver and moderate the number of concurrent distractions. This helps to ensure that the attention of the driver is focussed on the task of driving in situations of high concentration demand. Professor Regan explained the system to the Committee in the following terms:

---

<sup>80</sup> Transcript of Evidence, 17 August 2012, p13.

Let us say that a driver is turning right at an intersection, which is a complex activity, it is at night so the headlights are on and it is raining so the windscreen wipers are on. So the system monitors all of things that are happening in the vehicle: the turning right because there might be a GPS in the car, and yaw sensors, it knows the lights are on and it knows the wipers are on, and it gives the driver a workload rating of, say, five. If the workload rating is five then the workload manager will not let the phone ring, it will postpone the call until they have gone through the intersection, and it will lockout certain functions that the driver might want to interact with.<sup>81</sup>

- 3.49 While these systems are a feature in some vehicles in Australia, they are not yet commonly available. The Committee supports such technology and encourages further studies into the effectiveness of workload managers and real-time driver distraction warning systems. If studies prove that these systems are successful, they should become an important tool in preventing driver distraction.
- 3.50 Similar solutions are available to ensure that drivers do not interact with mobile phones physically while driving. These systems are delivered in the form of various applications which can be downloaded onto a phone and set to intercept incoming calls and text messages. The messages are then relayed to the recipient via voice alerts and an automatic response sent informing the caller that the recipient is driving, and that the call will be responded to later.
- 3.51 Although applications vary, it may be beneficial for phone manufacturers to build 'driving modes' into new phones which perform similar functions and become activated when a driver is in a vehicle. As the application only affects a specific phone, it also avoids the issue of blocking all phone signals into a vehicle, which can be problematic for passengers. A drawback of such systems is that the driver must choose to turn them on, but as phone integration with vehicle systems become more common, it is feasible that such a function could be automatically triggered when the engine is running.
- 3.52 Tablet formats also are becoming more common as personal communication devices. Car manufacturers are experimenting with ways in which these can be integrated within vehicles, whereby the larger screen on the tablet can be used as an optional method of controlling various functions while driving. There are concerns, however, that these tablets may still be able to access the internet or play videos which would be a major source of potential distraction for drivers.
- 3.53 Another development highlighted in the NSW Government submission is the 'heads-up display' [HUD]. Using this technology, appropriate information is projected as a see through display in the driver's field of vision on the windscreen. Information such as the vehicle's speed, current speed limits, lane keeping, and navigational information can be displayed in a manner which ensures that the driver's eyes remain on the road.
- 3.54 Some heads-up displays will also include added safety features such as blind-spot monitoring and prompts to brake to avoid collisions. While this technology would have to be monitored to ensure that excess information is not displayed, it appears to be a useful tool to prevent drivers from diverting their gaze from the road ahead.

---

<sup>81</sup> Transcript of Evidence, 17 August 2012, p52.

3.55 The Committee also notes the development of new safety information sources provided by the NSW Government. In 2011, a pilot was launched to issue road users with alerts about critical traffic incidents on the F3 Freeway. Road users registered to receive these alerts by email, SMS, or text-to-voice. More recently, however, options are being explored to lessen the need for motorists to use their phone. According to a representative from the Centre for Road Safety:

We are doing the F3 alert with Roads and Maritime Services and they are exploring the exact same thing, ensuring they are voice alerts rather than having to interact with the phone, and even looking at cutting in on the radio.<sup>82</sup>

3.56 A further avenue for reducing crash risks for drivers is by the use of another group of technology-based applications known as driver aids. In addition to the workload managers mentioned earlier which attempt to prevent distraction in complex driving situations, a number of vehicles now incorporate safety specific technologies. Some of the most effective were highlighted by NRMA Motoring and Services including:

- Lane Departure Warning – sounds an alarm if the driver crosses a lane line without operating the indicators and some systems act on the steering to nudge the vehicle back to towards the centre of the lane;
- Blind spot warning;
- Automatic braking – a sensor detects a vehicle in front closing at a dangerous speed; and
- Pedestrian detection – brings a vehicle to a stop or reduces impact speed when a pedestrian is in front of the vehicle.<sup>83</sup>

Intelligent speed adaptation is another useful technology which can warn drivers when they are exceeding the speed limit by using GPS technology linked to a database of speed zones. All of these can clearly mitigate the dangers caused by distracted driving.

3.57 The ultimate aim of safe driving systems is to reduce the capacity for human error. A development known as Dedicated Short Range Communications technology allows vehicles to 'communicate' with one another and react much quicker to dangers than a human response. If a vehicle senses a problem ahead or is warned about one from another vehicle, it can take appropriate action and alert the driver. Although emergent, it is hoped that such technology may minimise risk and reduce the potential for distraction on the part of the driver.

3.58 As previously outlined, technology can contribute to information overload as well as reduce its impact by regulating the amount of information received. Without incorporating limiting functions to these devices, some applications, particularly those linked to entertainment systems in vehicles, have the potential to contribute to safety risk. The Committee heard from Professor Regan who said that:

---

<sup>82</sup> Transcript of Evidence, 17 August 2012, p7.

<sup>83</sup> Submission 24 NRMA Motoring and Services, p2.

... someone from BMW had said that we should be able to let people do more things in their cars if we develop interfaces that allow for voice control and all the rest of it, but my fundamental philosophy in all of this ... is that I do not think we should be encouraging people to do more things in the car that are non-driving related than they already do. The message you are going to send the community, if you let them engage in more of these functional activities that have nothing to do with driving on the premise that they can control things with their voice, I do not think is the right message—and it has not been proven yet, as far as I can tell ... I think voice control can be very complicated if it is not well designed.<sup>84</sup>

As has been established, much of the demand for this technology is being driven by consumers but the Committee is concerned that certain devices are made available on the market before establishing their potential risks.

- 3.59 The Committee heard from a number of witnesses that various devices were being made available before adequate research had been conducted into their effects on driving. While some of this technology has safety benefits, the Committee supports further research being undertaken to ascertain any potential risks or to ensure that the safety benefits claimed are accurate. According to the submission from the National Road Safety Council, one option would be that:

Designers of such systems should be obligated to build in safeguards for in-car use, and conduct the appropriate research to demonstrate that the risk is managed.<sup>85</sup>

Alternatively, Transport and Road Safety Research recommended that local industry is supported to:

... develop objective, safety-relevant, and efficient test procedures for OEM and aftermarket electronic devices that can assess the distraction potential of the devices before they are allowed in a vehicle to be sold in Australia.<sup>86</sup>

- 3.60 The Committee supports the involvement of the NSW Government in ensuring that policy surrounding road safety is evidence based. According to a representative from the Centre for Road Safety:

...we are embarking nationally on a naturalistic driving study: this is going to be the goal in terms of collecting information for us. It is where a camera is actually put in a participant's vehicle who has signed up, and it actually looks at how they interact with different distractions inside and outside the vehicle ... We really are quite excited about the naturalistic driving study, and the Centre for Road Safety is actually going to pilot the first two vehicles to test the logistics of this within the next year, hopefully.<sup>87</sup>

The Committee awaits with interest the results from this study and considers the use of naturalistic driving studies to be an excellent way to collect data on distraction. Such studies may be expanded or introduced as new technologies emerge or become popular.

---

<sup>84</sup> Transcript of Evidence, 17 August 2012, p56.

<sup>85</sup> Submission 40, National Road Safety Council (Australia) p13.

<sup>86</sup> Submission 39, Transport and Road Safety Research, p25.

<sup>87</sup> Transcript of Evidence, 17 August 2012, p6.

3.61 As has been established, while there are a significant number of new technologies becoming available for vehicles, these are primarily available in newer vehicles which constitute a small percentage of the number of cars on NSW roads. According to Professor Regan:

One of the points I did want to make about Australia is that our vehicle fleet relative to the vehicle fleets in Europe is actually quite old. .... That means that the cars that we have got are not distraction tolerant like the ones that we mainly have in Europe, especially in countries such as France with a younger fleet. When we do have distraction-related crashes, particularly crashes that come about because of visual distraction, which are higher-impact crashes generally, then we do not have the same degree of protection.<sup>88</sup>

3.62 This was also recognised by the Deputy Director-General of Transport for NSW, who noted that:

As I indicated in our opening, we see driver distraction as the over-the-horizon policy issue that we will have to tackle for the next decade. The fleet of vehicles we have at the moment are where they are, and mobile prevalence and other technology prevalence within the motor vehicle will not change overnight. We will have to deal with this for some time.<sup>89</sup>

3.63 The rapid evolution of technology makes it imperative that vehicle manufacturers recognise that they have a responsibility to play an important role in delivering safer vehicles. It also relies on a collaborative partnership between the regulators, technology designers and vehicle makers to ensure that the benefits of this improved technology incorporate systems to protect all road users. As older vehicles are phased out it provides opportunities for the road safety community to work together to achieve optimal safety outcomes and solutions.

3.64 As previously noted, a significant impediment to capitalising on the potential safety benefits of new technology is that drivers who are most prone to distraction, such as young people and inexperienced drivers, are less likely to adopt these technologies due to price or personal choice.

3.65 Regulating the use of new and emerging technology can be difficult as new devices appear quickly and loopholes in existing legislation arise. This was recognised by the NSW Government who told the Committee that:

It is about the technology that is upon us that we are bringing into vehicles now and we are responding to that with a range of enforcement and education. I would say that at the moment the technology is a little more advanced than where we are with our responses in some ways.<sup>90</sup>

Considering the speed with which new technology is being introduced and the increasing take-up of existing technology, this will continue to be a challenge.

---

<sup>88</sup> Ibid, p52.

<sup>89</sup> Ibid, p4.

<sup>90</sup> Transcript of Evidence, 17 August 2012, p7.



3.66 Issues surrounding regulatory control of technology will be dealt with further in the following Chapter, but the Committee notes the suggestion from the Motorcycle Council of NSW that:

Test procedures need to be developed to determine the level of distraction the device causes and its cognitive loading, so descriptive regulation can be introduced...Using these test procedures, the introduction of unsuitable devices could be restricted before they become commercially available, rather than trying to restrict their use once they are available in the marketplace.<sup>91</sup>

3.67 Information and communication technology is a ubiquitous part of modern life and modern vehicles are reflecting this trend. Whether it is specific in-vehicle devices or items brought into a vehicle, it is clearly important to address their dissemination as part of a broader examination of road safety. There is potential for modern technology to solve many of the dangers caused by distraction, but it must be carefully managed to ensure that problems are not exacerbated.

---

<sup>91</sup> Submission 17, Motorcycle Council of NSW, pp2-3.

## Chapter Four – Regulatory Controls

- 4.1 In response to incontrovertible evidence that distraction poses a significant risk to all road users, a range of measures has been deployed to date to minimise its harmful effects, with particular emphasis on vehicle driver distraction. While educational strategies and awareness raising campaigns play an important role in shaping behaviour, other more immediate measures are also employed to reduce the risks associated with road user distraction. Such measures include legislative and regulatory controls, particularly for drivers, and the regulation of devices.
- 4.2 In practical terms, the most visible means of modifying high risk behaviour is the application of penalties for the inappropriate use or misuse of items or devices which cause driver distraction. For NSW roads, these are set out in the Road Rules 2008 and are modelled on a set of national laws developed by the National Road Transport Commission and adopted by the Australian Transport Council, forming the basis for road rules across Australia.

### PENALTIES AND ENFORCEMENT

- 4.3 Under the provisions of the NSW Road Rules 2008, the following rules apply to driver distraction:
- Rule 297 mandates that drivers have proper control of a vehicle. An offence under this Rule includes distractions caused by a person or animal, requires a driver to have a clear view of the road and surrounding traffic and also covers motorcycles. A standard penalty under this Rule is \$353 and 3 demerit points (increased in school zones).
  - Rule 299 refers to the use of television receivers and visual display units in vehicles and prohibits their use if they are visible from the standard driving position or have the potential to distract another vehicle. The penalty under this Rule is \$265 and 3 demerit points (increased in school zones). Global positioning satellites and navigational devices are exempt from this provision.
  - Rule 300 prohibits the use of hand-held mobile phones while a vehicle's engine is running, where contravention results in a fine of \$265 and 3 demerit points (increased in school zones).
  - Rule 301 covers Learner and Provisional 1 licence holders, who cannot use a mobile phone in any situation while the vehicle engine is running. The penalty for contravention is \$265 and 3 demerit points (increased in school zones).<sup>92</sup>
- 4.4 The submission from the NSW Government also refers to other legislative instruments governing negligent, reckless or dangerous driving as a consequence of being distracted by a mobile phone or electronic device. These are: negligent driving, pursuant to section 42(1) of the *Road Transport (Safety and Traffic Management) Act 1999*; driving in a manner reckless or dangerous, pursuant to

---

<sup>92</sup> Submission 29, NSW Government, p22.

section 42(2) of the *Road Transport (Safety and Traffic Management) Act 1999*; and driving in a manner dangerous occasioning grievous bodily harm or death, pursuant to section 52A of the *Crimes Act 1900*.<sup>93</sup> Serious criminal charges under these provisions may result in incarceration for up to 10 years.

- 4.5 According to the submission from Transport and Road Safety (TARS) Research at UNSW, legislation and enforcement to reduce distraction have the potential to influence behaviour at different levels of driver vehicle control. These are: the strategic level of prohibiting exposure to sources of distraction such as mobile phones; the tactical level, where distracting behaviour is prohibited in specific situations; and at the operational level, where technological systems override phone operations when the driver workload is high.<sup>94</sup>
- 4.6 While regulating to prohibit certain activities is a useful practical tool for reducing risky driver behaviour and improving road safety, its deterrent effect is limited by the degree of successful enforcement and prosecution of offences. Enforcement statistics provided by the NSW Police Force demonstrate that the most significant detection rate for offences under the driver distraction Road Rules is for illegal use of mobile phones. The mobile phone detection rate has increased from 13,000 in 2002 to 54,000 in 2012 and is one of the top ten infringement types issued by NSW Police.<sup>95</sup> This is despite increased penalty levels and demerit points for this offence over the same period.
- 4.7 In discussing the significance of these figures, Assistant Commissioner Hartley, Commander of Traffic and Highway Patrol, NSW Police Force, responded in the following terms at the Committee's public hearing:
- On Wednesday this week in a 24-hour period more than 900 drivers were caught using a hand-held mobile phone whilst driving in New South Wales. To extrapolate that, 330,000 drivers per year would be caught if we could concentrate on mobile phones every day of the week for the whole year, which we cannot do. We are not catching anywhere near the number of people who are using a mobile phone whilst driving. We are getting a very small number and we need to make sure we educate people not to use their mobile phone.<sup>96</sup>
- 4.8 NRMA Insurance, in its submission, cites its own research confirming that drivers continue to use mobile phones while driving despite the prohibitions on their use. The insurance organisation also contends that banning mobile phone use encourages covert use, which may be more dangerous than openly using a phone.<sup>97</sup> The NRMA also refers to research conducted in the US which indicates that legislative bans on hand-held mobile phone use by drivers have not resulted in fewer crashes.
- 4.9 As well as acknowledging the difficulties in policing mobile phone and electronic device use within vehicles, the continuing evolution of electronic technology has outpaced legislation and has further complicated the enforcement effort.

---

<sup>93</sup> Ibid, p26.

<sup>94</sup> Submission 39, Transport and Road Safety Research, p14.

<sup>95</sup> Submission 29, NSW Government, p24.

<sup>96</sup> Transcript of Evidence, 17 August 2012, p19.

<sup>97</sup> Submission 23, NRMA Insurance, p11.

Emergent technologies such as portable music systems, tablet technology and social media are not adequately regulated under current regimes.

4.10 Transport for NSW is currently examining the possible creation of a separate category of offence for the sending or receiving of text messages, email or similar communication. This is being discussed in the context of evaluating the impacts of emerging in-vehicle devices. It is part of the deliberations of the National Transport Commission's Road Rules Maintenance Group, which is looking at changing Rules 299 and 300.<sup>98</sup> Additionally, according to the NSW Government submission, the Centre for Road Safety is working with the NSW Police Force to develop an enhanced enforcement approach to mobile phone use while driving.<sup>99</sup>

4.11 The Deputy Director General of Transport for NSW, Mr Reardon, discussed the question of the appropriateness of current fines and penalties at the Committee's public hearing and made the following observations:

The fines and penalties we have in place across a range of areas and the offences try to strike a balance for the offence and the fine that relates to it...we see driver distraction as the over-the-horizon policy issue that we will have to tackle for the next decade... We will continue to monitor our fines, penalties and offences across a range of areas, including this area, and try to strike the right balance for what we need to achieve. Sometimes when the issues of offences are raised, we end up with a response in a fine or a penalty area, and it can place us out of kilter with the rest of the fines regime. We need to be careful with that, but beyond that, in terms of taking a look at specific and more targeted offences in this area, we would be more than willing to take that on and have a look at that.<sup>100</sup>

4.12 Assistant Commissioner Hartley, in his appearance before the Committee suggested that a significant deterrent for drivers using hand-held mobile phones may be to substantially increase the penalty for a second offence:

If we could look at, from my point of view, a second mobile phone use offence there would be a much higher penalty. If you are caught twice you may even lose your licence for a period of time. That would be for everybody.<sup>101</sup>

4.13 The application of increased penalties for high risk distraction behaviour is also supported by the Senior Manager of the Research Centre at NRMA Insurance, Mr McDonald, who in evidence submitted that:

I guess you have to agree that if the penalty was higher, there has to be some deterrent effect. I think it has to be applied to all hand-held devices, not just mobile phones. I think the current rules encourage a level of scepticism about the intention, particularly when most people I have spoken to have been written a ticket for talking on a mobile phone when they have actually pulled off the road but they have left the engine running, when they have attempted to do the right thing. I think that creates

---

<sup>98</sup> Submission 29, NSW Government, p22.

<sup>99</sup> Ibid, p27.

<sup>100</sup> Transcript of Evidence, 17 August 2012, p4.

<sup>101</sup> Ibid, p20.

a level of scepticism about the validity of the offence and the fact that people can use devices other than phones in their hands with impunity.<sup>102</sup>

- 4.14 Professor Regan, from Transport and Road Safety (TARS) Research at UNSW made the following observations concerning penalties and enforcement strategies:

...in the three or four countries in which driver distraction laws have been evaluated, and particularly laws that ban the use of hand-held phones, they have been initially effective and then after a year have been almost totally ineffective. In other words, the rates at which people are using the phones have increased to levels that were roughly comparable to prior to the introduction of the law...To some extent laws will change behaviour and the drink-driving laws, coupled with very good enforcement, are being extremely effective in changing attitudes towards drink-driving... Laws can be effective if they are very well enforced and if they are combined with mass media campaigns in particular, and target the misconceptions people have about distraction.<sup>103</sup>

- 4.15 Professor Regan also stressed the need for stringent evaluation of existing laws and penalties to determine their appropriateness and adequacy:

I know Australia has been spectacularly successful and is the envy of the world in tackling drink-driving as an issue. I think that is because, as you rightly stated, the laws are strict, the penalties are very high, commensurate with the level of risk, the level of random breath testing and other enforcement activities have been high and very strategic—and that is very important—and generally the laws are well constructed. I think in that sense we may find if we evaluate our own distraction laws and we ensure the penalties are high enough and that the laws are appropriately structured—which I think on the whole they are at the moment, according to these general principles—my feeling is that the laws at the moment as constructed are not too bad. They are encouraging non-driving related functions, they are forbidding visual interactions and they are putting the onus on people to use their voice rather than their hands, so they are reasonably effective. The answer is it could be when we eventually get around to evaluating our current laws they might be effective, if we treat distraction in a legal sense and enforce it in a way we do the drink-driving laws.<sup>104</sup>

- 4.16 The Executive Director of the National Road Safety Council, Dr Soames Job, discussed the advantages of specifically targeting penalties to high crash risk drivers:

I think they should be age specific and I think the refinements and strategies are important. First, it is important to think about who is most impaired by distraction. The answer consistently to any form of impairment or distraction is that those for whom the task is least practised are more impaired by distraction from that task. So the less experienced drivers will be more impaired by distraction than the more experienced drivers. To place a broader ban on P2 and possibly even, say, drivers under the age of 25, given that that is an age where we seem to get a fair turnaround in high risk rate, would be a very worthwhile policy to consider carefully.

---

<sup>102</sup> Ibid, p27.

<sup>103</sup> Ibid, p51.

<sup>104</sup> Ibid, p52.

If you are targeting a smaller group very effectively you can make enforcement more effective. The probability of detection for any given individual has to be seen to be a lot higher than it currently is to get that enforcement to bite into changing behaviour. If we targeted smaller groups we would have a better chance of achieving that.<sup>105</sup>

- 4.17 Suggestions for improvements to the regulatory system governing distraction will be outlined in Chapter 6 of the Report. It is the Committee's view that legislative measures regulating driver behaviour, while useful, must be supplemented by education, mandated vehicle design standards and improved technological management of information sources within the vehicle. The overriding aim must be to reduce the impact of competing sources of distraction for drivers.
- 4.18 A further and related issue concerns the use of mobile devices by cyclists and pedestrians using the road system and its impact on their own safety as well as on other road users. There is currently no specific legislative prohibition on the use of mobile devices by non-driver categories of road users. As vulnerable road users, the consequences of severe injury and fatality risk warrant special consideration.
- 4.19 The submission from Transport and Road Safety (TARS) Research raises the consideration of banning electronic device use by cyclists and pedestrians in high risk locations, such as intersections. This, it argues, should be based on thorough evidence based research.<sup>106</sup> While studies have been conducted to determine the impact of mobile devices on cognitive processing, indicating that the use of mobile phones is much more distracting than listening to music, there appear to be gender and age differences involved, requiring greater examination.<sup>107</sup>
- 4.20 Similarly, research studies conducted in the Netherlands have demonstrated that bicycle crash risk increases with greater use of electronic devices. One study revealed that the use of mobile phones while cycling coincided with reduced peripheral vision, increased risk and mental effort rating and that text messaging has the greatest impact on cycling performance. Cyclists who use devices on every trip are 1.4 times more crash prone than those who do not.<sup>108</sup>
- 4.21 When asked about the possibility of regulating to counter distraction risks for vulnerable road users, Mr Reardon responded:

We need to strike a balance between enforcement and education. So, the short answer to your question is no, not at this time. However, we will continue to look at offences and the fines and penalties regime to strike the right balance in what we achieve in what regulatory responses we need and what education responses we need. As I indicated, we are grappling with research to get up to speed with what the appropriate messages will be to get through in both enforcement and education spaces. Until we have a little more research behind us I do not believe it is prudent to rush through and put out another range of penalties which may make these

---

<sup>105</sup> Ibid, pp59-60.

<sup>106</sup> Submission 39, Transport and Road Safety Research, pp16-17.

<sup>107</sup> Ibid, p43.

<sup>108</sup> Submission 29, NSW Government, p44.

penalties, as our colleague in Attorney Generals indicated, out of kilter with other penalties we have in the road rules.<sup>109</sup>

4.22 Assistant Commissioner Hartley, addressing the issue of pedestrians texting in the road, told the Committee:

I think it is probably a very large resource drain to have police officers targeting people who are walking and texting. I do not have the evidence before me to say that injury crashes or fatal crashes are a major problem involving texting. In fact, I would prefer to put the resources into targeting other poor driver behaviour by drivers who are speeding and drink-driving. It is give and take. It is a great idea in theory but the fact is it would be very hard to—you would have to juggle your resources to cover that.<sup>110</sup>

4.23 Further development of this issue will be covered in Chapter 6.

## PLANNING INSTRUMENTS

4.24 As previously indicated in Chapter 2, an estimated 30% of distractions originate from sources external to vehicles. These are in the form of external objects, scenery, traffic and visual displays near roads. Such displays include advertising billboards and free-standing panels, electronic messaging and other road signage. The NSW Department of Planning and Infrastructure (DPI) determines the location of roads and road related infrastructure in consultation with councils and Roads and Maritime Services (RMS). In addition to assessing driver and road safety impacts of road systems in new release areas, the Department assesses outdoor advertising Development Applications under a set of planning instruments and policies. These include the following:

- *State Environmental Planning Policy No 64 (SEPP 64)– Advertising and Signage;*
- *State Environmental Planning Policy (Exempt and Complying Development Codes) 2008;* and
- individual local government development control policies.<sup>111</sup>

4.25 The Minister for Planning and Infrastructure and local councils are jointly responsible for outdoor advertising, external visual displays and road signage. Development controls and policies aim to ensure that advertising is consistent with the surrounding area, not visually intrusive and does not pose a road or pedestrian safety risk. SEPP 64 was introduced in 2001 in response to the need for consistency in advertising sign regulations to ensure permissibility, design and safety. The Planning Policy was updated in 2007, to provide a greater role for councils and is currently being reviewed. SEPP 64 is complemented by the Transport Corridor Outdoor Advertising and Signage Guidelines issued by the Department of Planning and Infrastructure.<sup>112</sup>

---

<sup>109</sup> Transcript of Evidence, 17 August 2012, p8.

<sup>110</sup> Ibid, p19.

<sup>111</sup> Submission 21, Department of Planning and Infrastructure, p2.

<sup>112</sup> Ibid.

- 4.26 The Guidelines outline key safety criteria for the placement, design and nature of displays and are designed to provide a safe and visually non-intrusive driving environment. According to the submission from the Outdoor Media Association (OMA), the Guidelines are very risk-averse, resulting in only 10 billboards being installed on private land since 2001.<sup>113</sup>
- 4.27 In responding to questions concerning the impact of roadside advertising on road safety, the Deputy Director General for Transport for NSW provided the following perspective:

Adjacent to the corridor there are going to be discussions about outdoor advertising. Our view is that it is about striking the right balance. Driver distraction and being within your core role of driving a vehicle safely on the road network needs to be balanced against outdoor advertising which seeks to have drivers passing by look at as much advertising as is achievable. That is a balance we are trying to strike.<sup>114</sup>

- 4.28 Roadside messaging can take many forms, including conventional billboards and posters, mobile and portable billboards and public transport shelter and street furniture poster displays. Other formats include commercial signage, banners and flags, paintings and murals, transit and aerial displays.

- 4.29 The Outdoor Media Association (OMA), representing 97% of the outdoor media display industry, claims that existing restrictions on the placement and design of third party advertising ensure that there are no concerns about the road safety impacts of such signage. In its view, more scrutiny is required for unregulated on-premise signage, such as that displayed in pubs, clubs and retailers, and variable message signs installed by Roads and Maritime Services.

- 4.30 The Chief Executive Officer of the OMA, when appearing before the Committee, discussed different signage categories in the following terms:

There are three types of signage. There is third-party signage that is regulated under SEPP 64 in the guidelines then there is on-premise signage that is regulated by councils to some extent. When are you a mum-and-dad business, or Bunnings, you go through a development appreciation application process. The issue with that is that if you are non-compliant there is not someone chasing you up for compliance, and you can understand that, which is why I give you that statistic of 2,000 ads in a kilometre. Two thousand signs; who has the staff to go out and make it compliant? The way councils operate, and this is what I have been told by council officers, is that if someone rings up and complains about the Marrickville RSL with the lights flashing they will then go and do something about making that sign compliant, so it is reactive compliance rather than proactive compliance.

The third lot of variable message signs—variable message signs are not regulated and, to some extent, neither is the Roads and Maritime Services variable message signs. The Roads and Maritime Services variable message signs have their own State environmental planning policies. Roads and Maritime Services do not operate under SEPP 64. They have their own State environmental planning policy that they operate under and their State environmental planning policy allows them to operate variable message signs at three seconds...dwell time because they state that they are usually

---

<sup>113</sup> Submission 25, Outdoor Media Association, p6.

<sup>114</sup> Transcript of Evidence, 17 August 2012, p14.



road safety messages, therefore, they can flash quite quickly, but we all know and I think we provided evidence to the Committee that there are messages that say Sydney Harbour Bridge is closed in two weeks time. That is flashing every three seconds. So there are three different rules operating in the same place.

- 4.31 The more recent emergence of digital signage in the form of variable message signs and mobile platforms poses more concern from a distraction perspective. In the January 2013 Austroads report on the impact of advertising on road safety, emphasis is placed on the impact of digital display technology for outdoor advertising signs. Research is cited in the report which supports the view that more intensive attention alerting messages will cause drivers to pay less attention to the driving task. Reference is made to new digital billboards which are increasingly able to interact with approaching drivers and trigger personalised messages on the billboard or "display a message tailored to the radio frequency of passing vehicles".<sup>115</sup>
- 4.32 In its discussion of electronic advertising, Austroads refers to digital billboards, variable message signs (VMS) and building projections as becoming increasingly prevalent in the Australian road environment.<sup>116</sup> The Outdoor Media Association contends that there is a lack of data on the distraction effects of such advertising and that an assessment of safety regulations governing this signage is currently being conducted by RMS, DPI and OMA. A point of contention is the length of dwell time for electronic signs. This refers to the length of time an image is displayed before the next image is displayed.<sup>117</sup>
- 4.33 In his appearance before the Committee, Mr Reardon, Deputy Director General, Transport for NSW provided the following information:
- ...we are working with Transport for NSW and Roads and Maritime Services at the moment to achieve the right balance specifically in the amount of time that signage may be able to flash up. I would add that we are keen to ensure that the colours that are used in those signs are appropriate. Red and green colours are not appropriate right next to a road corridor for obvious reasons—they look like traffic signals. It needs to be clear what the controls are for that...From our perspective, variable message signage within the road corridor that may flash up for a shorter period than something adjacent to the corridor is a core driving task. It is our responsibility to let drivers know what is ahead as part of the driving task.<sup>118</sup>
- 4.34 The lack of enforcement of regulations and technical directions governing roadside variable messaging signs was referred to by the Chairman of the Pedestrian Council of Australia in his appearance before the Committee. The Council considers that the increased use of these signs by private businesses adjacent to roadways poses a major and cumulative danger for driver distraction and road safety generally.<sup>119</sup> This is an area which requires closer monitoring as part of the current review being conducted.

---

<sup>115</sup> Impact of Roadside Advertising on Road Safety, Austroads Research Report AP-R420-13, January 2013, p1.

<sup>116</sup> Ibid, p6.

<sup>117</sup> Ibid, p7.

<sup>118</sup> Transcript of Evidence, 17 August 2012, p14.

<sup>119</sup> Transcript of Evidence, 24 August 2012, p7.

4.35 A review of research literature on the safety impact of roadside advertising has been conducted by TARS and cited in their submission to the Inquiry. This indicates that advertising signs pose a risk in the following circumstances: when sited at locations where there is already high attentional demand on drivers (eg crossings, merging traffic, complex road geometry); where there are sudden changes in the peripheral vision of drivers (eg size, brightness, motion); signs with moving images; placement within the visual field (eg above or below horizontal eye level; and the presence of other distractions.<sup>120</sup> It is acknowledged, however, that there is a paucity of good quality research on the effects and characteristics of such signage on driving performance and safety.

4.36 The National Road Safety Council expresses concern about the amount of advertising displays cluttering the road environment. Its submission states that advertising is deliberately designed to distract and that there should be a "do no more harm" policy to prevent the proliferation of more signage.

4.37 When asked whether the Council supported a reduction in advertising signage adjacent to roads, the Executive Director said:

Yes, I do, and I think very targeted locations, in particular. I would support two avenues of improved control of advertising—first, where it is located; and, second, the form of the advertising. In relation to where it is located, for example—let me lash out with a strong example—I think it is really inappropriate that around the central business district of this city we have, right next to the footpath, scrolling screens which, first, distract the driver with movement and, second, hide pedestrians from the driver's view, and, third, hide the driver and the vehicle from the pedestrian's view. They are there on the backs of gangs of double public phones. If you stand at one for half an hour and watch how they are used, the only person who ever uses a phone near them is the person who uses them as a screen to get on their mobile phone.<sup>121</sup>

4.38 Dr Job further elaborated on suggestions to reduce distraction for drivers:

First, as I have outlined, location should not actually obscure sight as well as take-up visual attention. So, location is important. Limiting movement is important...I would say that if we were talking about, for example, a billboard which is electronic—and I know there is a very strong push for a lot more electronic advertising—then I think it is important that it does not change from one screen to another in a manner where the change itself is visually arresting. You can scroll so you have got the first image and you can scroll the other image across it so they gradually change with a bright light between them as they roll. That would be distracting. I think it should simply go: It's A; bang, it's B. Nothing between. No black screen that means you get a huge change in illumination—it's bright, it's black, it's bright. I think the way in which it changes has to be as simple as possible, rather than the change mechanism itself creating another visually arresting device.<sup>122</sup>

4.39 The Council argues for more studies into crash rates at locations with different types of advertising signs and refers specifically to overseas case studies

---

<sup>120</sup> Submission 39, Transport and Road Safety Research, pp7-8.

<sup>121</sup> Transcript of Evidence, 17 August 2012, p61.

<sup>122</sup> Ibid, p62.

indicating that moving signs and signs with a longer dwell time attract more visual attention than static signs.<sup>123</sup> According to Dr Job:

What we need to know, though, is: Are we collecting all of the crashes at that location? Can we focus to ensure that we collect all of the crashes at that location? Can we do a before-and-after study at that location? Can we get enough locations together so that we could find a real difference? I think it is possible to do that study but it is not happening now. I would also say that it could almost also be done retrospectively. It would be a significant resource to do it, but if we were to deliberately select locations where we had an exact time—when we went from a static billboard to a moving billboard or something like that, or when a new billboard went up—and we had a long-term analysis of crashes at a location or at many locations, then it is possible we could do this.<sup>124</sup>

- 4.40 The Committee supports increased research into the impact of advertising on driver and road user safety and will expand on this in Chapter 6 of the Report.

## TECHNOLOGY REGULATION

- 4.41 Technological innovation drives improvements in vehicle functionality and increasing interaction of electronic devices with drivers and other road users. As the rate of technological change will invariably outpace legislative and regulatory change, it is important to respond rapidly to perceived risks and to anticipate, as far as possible, any road safety consequences of the take-up of new electronic devices by consumers and car manufacturers.
- 4.42 Manufacturers of vehicles and third party products aim to offer integrated solutions for linking new devices to vehicle controls and to provide drivers with enhanced capability and functionality. As previously discussed, this creates a more complex driving environment and has the potential to exacerbate possible sources of distraction to the point where the increase in cognitive load and information processing can compromise the safety of the vehicle occupants and other road users. These sources of distraction, as well as mobile phones, include entertainment systems, navigation and route guidance systems.
- 4.43 The commercial imperative of vehicle connectivity driven by consumer demand in a competitive market reflects the growing appeal of electronic applications, particularly for drivers under 30 years of age who consider connectivity options to be secondary in importance only to fuel efficiency.<sup>125</sup> A more detailed description of the range of available applications and future trends in electronic devices was provided in Chapter 3 of the Report.
- 4.44 The foreshadowed change to Road Rule 299, under consideration by the Australian Road Rules Maintenance Group and referred to earlier in the Chapter, encompasses the impact of visual display units in vehicles. Australian Design Rule 42/04, Clause 18.1, stipulates that these devices must be securely mounted in a manner which must not be visible to the driver from the normal driving position. Mobile phones and other GPS and navigational devices, categorised as a driver's

---

<sup>123</sup> Submission 40, National Road Safety Council, p7.

<sup>124</sup> Transcript of Evidence, 17 August 2012, p66.

<sup>125</sup> Submission 29, NSW Government, p20.

aids, are exempt from this provision, but must not display other functions to the driver while the vehicle is being driven.<sup>126</sup>

4.45 At issue is the multi-functionality of these devices. State and Federal vehicle safety regulators agree that ADR 42/04 must be revised to improve the definition of a driver's aid and require that a display screen containing other material shuts down once the vehicle is in motion. Similarly, keypad functions should be deactivated once the vehicle is moving.

4.46 The Committee agrees that this is an area which requires urgent attention and that more stringent rules should apply to the location and functionality of in-vehicle mounted devices which have the potential to distract from the driving task and compromise safety. It must also be stressed, however, that technological innovation can provide practical solutions to manage distraction, by use of voice recognition software and by incorporating workload management systems into devices and vehicle design. This has been discussed in the previous Chapter.

4.47 There is general consensus that vehicle based workload management technology can improve safety by only enabling additional functionality for drivers in situations of low risk. Professor Regan in evidence to the Committee supported this approach, as follows:

The sorts of systems that I am talking about are, firstly, the ones that we talked about before that can detect whether a person is visually or cognitively distracted or both and provide warnings. The second major system relating to distraction is what is called a workload manager—these are already available on cars in Europe and possibly in Australia but I am not sure—and the system is basically detecting the level of workload that the driver is under at any moment in time. Let us say that a driver is turning right at an intersection, which is a complex activity, it is at night so the headlights are on and it is raining so the windscreen wipers are on. So the system monitors all of things that are happening in the vehicle: the turning right because there might be a GPS in the car, your senses, it knows the lights are on and it knows the wipers are on, and it gives the driver a workload rating of, say, five. If the workload rating is five then the workload manager will not let the phone ring, it will postpone the call until they have gone through the intersection, and it will lockout certain functions that the driver might want to interact with.<sup>127</sup>

4.48 The NSW Taxi Council in their submission made reference to additional regulatory conditions applying to taxi operator, drivers and networks due to their responsibility for carrying public passengers. One of the conditions to operating a taxi network in NSW is having the technical competence to maintain and operate an efficient dispatch communication system (clause 167, Passenger Transport Regulation 2007).<sup>128</sup> This specialised electronic dispatch system is an integral part of taxi fleet operations.

4.49 The hardware used in taxi dispatch systems is designed and mounted in accordance with Australian Design Rules. It has text-to-speech capabilities,

---

<sup>126</sup> Ibid, p39.

<sup>127</sup> Transcript of Evidence, 17 August 2012, p53.

<sup>128</sup> Submission 16, NSW Taxi Council, p2.

allowing the driver to receive instructions from a call centre without looking at the screen. While dispatch messages are also displayed on the vehicle's in-built screen, these messages are very short, require a minimal (two second) glance at the screen and no other action by the driver other than pushing a single button which responds with a predetermined, pre-programmed message.<sup>129</sup>

- 4.50 The Senior Manager at the NRMA Insurance Research Centre, highlighted some issues with the operation of the taxi dispatch system at the Committee's public hearing:

Just from my own observation those units are incredibly big and quite obstructive. They are often mounted in a way that is right in the driver's field of view. I see the drivers actively using them while they are driving all the time. I have actually asked a couple of taxi drivers when I have been in their cabs not to do that. I sort of crash cars for a living and I do not really want to do it in my spare time as well. I have been in a taxi that has run up the back of another car. That and the exemption for drivers of taxis and hire cars to use of seatbelts I do not think should be applied. It seems to be an issue that has been floating around for a time. Many taxi drivers also bring their own GPS as well. I have seen a taxi, and I tried to take a photograph of it, that not only had the taxi unit but it had two GPS units—I do not know why—one above the other directly over the instrument panel. How he was seeing around it to see what was going on, I have no idea.<sup>130</sup>

- 4.51 The Taxi Council itself raised concerns about the increasing use by passengers and some drivers of unauthorised dispatch systems and its potential to compromise safety. The Committee agrees that this is an area which requires attention and that more stringent rules should also apply to the location and functionality of in-vehicle mounted devices in all situations which have the potential to distract from the driving task and compromise safety. These issues are further developed in Chapter 6.

---

<sup>129</sup> Ibid, p3.

<sup>130</sup> Transcript of Evidence, 17 August 2012, p29.

## Chapter Five – Road Safety Education

- 5.1 All evidence received by the Committee stressed the need to ensure that road users become better informed about all aspects of road user distraction, including: the causes of distraction; the dangers arising from driving in a distracted manner; methods for avoiding distraction; and the current rules and regulations governing distraction.
- 5.2 Road user distraction is not a static issue and, as such, education strategies must be flexible and targeted to specific road users to ensure their optimal effectiveness. In addition to road safety education in schools, it is also important to devise and promote media campaigns to inform the whole community of current and emerging safety risks.

### CURRENT SCHOOL EDUCATION PROGRAMS

- 5.3 As the Committee has discussed previously in its Report into School Zone Safety, young people are particularly vulnerable road users. This was reiterated by the Commission for Children and Young People who stated that:

It is important to note that children are vulnerable pedestrians to begin with, before the impact of hand-held electronic devices is taken into account, because they are subject to a range of limitations associated with their stage of development. For example Bakovic (2012) notes that children do not reach an adult level of performance in traffic (i.e. do not have the perceptual and cognitive capacity to make sound judgements about traffic safety) until about 12 yrs of age and that vision is not fully developed until age 16 years. The more complex the traffic environment, the more difficult the crossing task will be for children to perform. Young children have limited ability to process information in their peripheral vision, so they need more time to react once an object in the periphery is seen. Children also tend to believe that others will protect them, and can be overconfident in many circumstances. Other commentators note that children are particularly prone to risk-taking behaviour with the onset of puberty, as they are more influenced by the socioemotional brain network and less by the cognitive control network, which does not achieve full development until adulthood.<sup>131</sup>

- 5.4 Road safety is taught to all students throughout their school career from kindergarten to the end of secondary school as part of the NSW Board of Studies Personal Development, Health and Physical Education (PDHPE) syllabus. The PDHPE course, with its road safety content, is mandatory for all students.
- 5.5 There are two syllabuses for PDHPE. The first covers the years K-6 and contains the following components:
- safe crossing procedures and being a safe and responsible pedestrian in the traffic environment;
  - use of restraints and safe and responsible behaviours as passengers; and

---

<sup>131</sup> Submission 36, Commission for Children and Young People, p13.

- safety equipment, safe places to ride and responsible behaviours as a user of wheeled devices.<sup>132</sup>

5.6 The latter syllabus covers the years 7-10, specifically dealing with:

- risk factors and behaviours in a range of road environment and situations;
- responsible driver and passenger behaviours;
- factors and influences on road user behaviours;
- major causal factors in road and traffic related injuries;
- consequences of safe and unsafe road user behaviours;
- skills and attitudes that support safe road behaviour; and
- laws, regulations and rules.<sup>133</sup>

5.7 As part of these classes, students also learn about the specific dangers of distraction arising from activities such as texting on a mobile phone or listening to music whether as a pedestrian, passenger, wheels user or future young driver. The Committee notes that this is a rapidly evolving issue and, as such, work is done to keep materials relevant and current through a partnership between the Department of Education and the Centre for Road Safety. According to a representative from NSW Government:

All of the major campaigns I think that we have been talking about previously have been reinforced by us working very closely with the Centre for Road Safety to ensure that our resources are up-to-date and keep pace with what the emerging issues are so that we are providing teachers with support to tackle and address the things as they emerge.<sup>134</sup>

The Committee supports the work done by the Department of Education and Communities in partnership with the Centre for Road Safety to provide relevant materials. It is also important that education is age-specific to ensure that students learn about aspects of distraction which are relevant to their circumstances and will have the greatest safety benefit.

### **Additional education**

5.8 Novice drivers are at significant risk of distraction, as they have yet to become fully proficient at the driving task. It must be emphasised, however, that young people, as early adopters of new technology such as hand-held electronic devices, are also particularly vulnerable to the effects of distraction. The Committee heard concerns that distraction was not given a significant focus in current education. A representative from NRMA Insurance told the Committee that:

---

<sup>132</sup> Submission 15 Department of Education p3.

<sup>133</sup> Ibid.

<sup>134</sup> Transcript of Evidence, 17 August 2012, p12.

I definitely think road safety could form a more active part of the normal high school curriculum starting at an early age but I think it has to be continual. It has to keep going right through the early stages ... I think it needs to be a continual process throughout those early stages but probably starting earlier the better in schools.<sup>135</sup>

- 5.9 Similarly, the Commission for Children and Young People noted a need to focus on the specific risks of distraction which may affect children and young people and made the following recommendation:

That the NSW Road Safety Education Program provided to NSW school students through the PDHPE curriculum includes a component on the risks associated with road user distraction to children and young people.<sup>136</sup>

- 5.10 Given that distraction is becoming an increasing danger to all road users and the fact that school-based education is the best way to reach young people, it is the view of the Committee that more emphasis should be placed on the dangers of distraction in the road safety elements of the PDHPE syllabus for year K-10. The Committee notes that according to the NSW Government:

Driver distraction is addressed specifically in 'Limiting risks, protecting lives' in Module 2: 'Safer driving - it's all about thinking and acting safely'. Here students investigate the hazards, including distractions that can affect young drivers and examine the influences on driving.<sup>137</sup>

These specific materials are to be encouraged and should be expanded to all age groups and should consider young people as a variety of road users, as opposed to concentrating on young drivers.

- 5.11 The Committee notes that road user distraction is assuming greater focus in education and while there may not be an abundance of teaching material available at the moment, this will be developed in the near future. The Committee was pleased to hear from a representative of the Department of Education and Communities, that:

I imagine we look forward, as new resources are developed, bringing it [distraction] more into focus as an issue for young people, both as pedestrians in the younger age groups but certainly people learning to drive as an important thing they need to focus on.<sup>138</sup>

The Committee supports this increasing focus on road user distraction in the PDHPE syllabus and the associated creation of materials and relevant teacher training and development.

## OTHER EDUCATION PROGRAMS

- 5.12 In a number of previous inquiries, the Committee has detailed the particular risks associated with novice and younger drivers. A lack of driving experience means that such drivers are particularly susceptible to hazards and dangers which can

---

<sup>135</sup> Transcript of Evidence, 17 August 2012, pp28-29.

<sup>136</sup> Submission 36, Commission for Children and Young People, p20.

<sup>137</sup> Submission 29, NSW Government, pp40-41.

<sup>138</sup> Transcript of Evidence, 17 August 2012, pp13.



arise from distraction. In its submission, the Commission for Children and Young People referred to a 2007 study by JD Lee which outlined some of the reasons for the high crash rate amongst young drivers, including:

- imperfectly learned vehicle control skills, which lead to poor control and less spare attentional capacity for additional roadway demands;
- poor ability to anticipate and identify hazards;
- willingness to take risks such as shorter following distances and higher speeds; and
- sensitivity to peer influences in adopting inappropriate norms.<sup>139</sup>

5.13 Similarly, Professor Regan pointed out that:

Probably most importantly for young people, because we know one of the major reasons why young people have more crashes than older people is not only because they are distracted more of the time but because they do not know how to manage distraction as well as more experienced people at different levels of control.<sup>140</sup>

5.14 The Committee also received evidence suggesting that younger road users were more prone to risk-taking and peer pressure, adding to the potential risks involved.<sup>141</sup>

5.15 As was highlighted in Chapter 3, there is also evidence to suggest that younger people, as early adopters of technology, will be more familiar and reliant on electronic devices such as mobile telephones and GPS devices, while less likely to be driving cars with advanced safety features. The submission from the Commission for Children and Young People notes that the aforementioned study by JD Lee highlighted the fact that:

... young drivers are also likely to be the first and most aggressive users of new technology. Infotainment technology diminishes driving safety by undermining the operational, tactical and strategic levels of control.<sup>142</sup>

5.16 This reinforces the necessity for the provision of educational materials for all novice drivers, whether inside or outside the school system.

5.17 The Committee notes that the NSW Government hosts a website aimed specifically at younger drivers which contains information that is relevant to this audience, presented in a targeted format. According to the submission from the NSW Government, the Geared website:

... is managed by Roads and Maritime Services and has been specifically developed for young and learner drivers aged 17 to 20. The site provides information ... [and a] safe page on distraction and features the types of distraction with the top 5 featured

---

<sup>139</sup> Submission 36, Commission for Children and Young People, p4.

<sup>140</sup> Transcript of Evidence, 17 August 2012, p54.

<sup>141</sup> Submission 36, Commission for Children and Young People, pp12-14.

<sup>142</sup> Ibid, p11.

in the information. It also includes a video with interviews of young people and their experiences with distraction.<sup>143</sup>

The Committee supports material being presented to younger drivers in a suitable and familiar format and encourages the use of various media such as videos to reach this target audience.

- 5.18 The Government's own research supports this approach. In answers to questions on notice, Transport for NSW stated that:

Research [completed in 2011 and 2012] found that the Geared website is perceived very positively by both non-users and users. Participants believed it was a good idea to have a website aimed at young drivers. For many, the website exceeded their expectations in terms of content and relevance to people learning to drive.<sup>144</sup>

- 5.19 In recognition of the growing preference for younger people to interact and gather information through social media and in order to convey the road safety message in the most relevant way, it would be beneficial for the NSW Government to improve its presence in these media channels. This could include specific campaigns aimed at informing young people about the dangers of distraction. Considering the favourable reviews of the Geared website, it would also be worthwhile to better publicise its existence. The Committee notes that this was recognised by Transport for NSW which stated that:

However, the research also indicated increased promotion of the site would increase the awareness and visitation within the core audience.<sup>145</sup>

Social media would be a good place to further promote the Geared website to its target audience.

### Community based education

- 5.20 In addition to the education and resources provided by schools and Transport for NSW, other avenues exist to learn about the dangers of distraction. Organisations such as the NSW Police, the NRMA, the Rural Fire Service, Rotary groups and the Scouts provide road safety education programs. The Committee was pleased to hear that the changing risks for younger drivers are recognised and "the RYDA program [has a] message around distraction [which] is very, very strong".<sup>146</sup> These organisations can play an important role in disseminating information about the dangers of distraction as part of their road safety education activities.
- 5.21 In previous reports, the Committee has highlighted the benefits of increased involvement in road safety education by appropriately qualified and experienced road safety practitioners, in order to deliver the best possible learning experience for young people.<sup>147</sup> Considering the efforts being made by these organisations to

---

<sup>143</sup> Submission 29, NSW Government, p41.

<sup>144</sup> Transport for NSW, Answers to Questions on Notice, 27 September 2012, p11.

<sup>145</sup> Ibid.

<sup>146</sup> Transcript of Evidence, 17 August 2012, p44.

<sup>147</sup> Joint Standing Committee on Road Safety, Report on School Zone Safety, 1/55 p47.

remain relevant and up-to-date with emerging issues, the Committee supports these programs.

- 5.22 Another important mechanism for novice driver education is professional instruction. The Committee received evidence from a number of professional driving instructors who stated that they were aware of the dangers of distraction and taught pupils about the risks and how to deal with them. According to a representative from the Australian Driver Trainers Association (NSW) Ltd:

In our hazard perception training we focus a lot on how our clients behave when the mobile phone rings, using a GPS and whatever... We have to teach them how to look, when to look and what do look for. That is what we do in hazard perception training. We get them to turn the radio on and off when appropriate and show them the ramifications of not doing the appropriate thing.<sup>148</sup>

- 5.23 Expert instruction from professionals is to be encouraged wherever possible, particularly as these instructors can highlight risks and the application of current safety practices and road rules relating to distraction.
- 5.24 The Committee is also aware of other driving courses aimed at learner drivers, those who have recently passed their test, or simply wish to maintain their skills. These courses offer a mixture of real and simulated driving experiences where dangers and hazards can be encountered and negotiated. This first-hand experience under controlled conditions is a key method to demonstrate to drivers the dangers of distraction and the Committee supports such programs.
- 5.25 The Committee also supports recent changes to the learner driver system which offers incentives to encourage drivers to undertake specific road safety courses.
- 5.26 In its evidence to the Committee, NRMA Insurance highlighted the work being done jointly by the Australian, Victorian and NSW Governments, the Federal Chamber of Automotive Industries, the Royal Automobile Club Victoria and NRMA Insurance on the P Drivers Project.<sup>149</sup> This research project involving novice drivers is examining methods of driver education and includes elements such as feedback and peer discussion to improve road safety in novice drivers.<sup>150</sup>
- 5.27 The Committee notes that "Section 5 of the Road User Handbook provides specific information on distraction and crash risk".<sup>151</sup> Given the importance of the Road User Handbook to enable novice drivers to understand the road rules and learn how to drive safely, this is another important information source where the dangers of distraction are outlined as part of the process of learning to drive.
- 5.28 There is evidence to suggest that the increased focus on younger drivers on the dangers of distraction, particularly the use of mobile phones to make calls, is well targeted. According to research conducted on behalf of NRMA Insurance, drivers in the 25-34 age group are the most likely to use their mobile phones while driving. This is supported by the Commission for Children and Young People

---

<sup>148</sup> Transcript of Evidence, 24 August, pp32-33.

<sup>149</sup> NRMA Insurance, Answers to Questions on Notice, 10 September 2012 p7.

<sup>150</sup> Transcript of Evidence, 17 August 2012, p25.

<sup>151</sup> Submission 29, NSW Government, p40.

which refers to research suggesting that "the 25-29 year age group had the highest frequency of phone use-related injurious crashes as well as total crashes, compared to drivers of other ages".<sup>152</sup>

5.29 However, the submission from NRMA Insurance states that:

Although the youngest drivers (18-24) are not the most likely to use their mobile phones while driving when they do use their phone they are more likely to text, tweet, update their status and use applications than drivers in other age groups...Drivers in this age group are also more likely to use an mp3 player while driving.<sup>153</sup>

## MASS MEDIA AND INFORMATION CAMPAIGNS

5.30 While information about the dangers of distraction is made available to younger people and novice drivers, it is not evident that its consequences are generally understood by other road users.

5.31 As detailed in earlier Chapters, a significant proportion of motorists continue to use their mobile phones while driving. According to surveys conducted by NRMA Insurance and the Suncorp Group, 40% and 41% of respondents respectively said that they had used their mobile phone while driving, without a hands-free device.<sup>154</sup>

5.32 This is despite findings from the NSW Government that 79% of motorists recognise that using a hand-held phone is likely to increase the risk of a crash.<sup>155</sup> The Committee also notes the findings of the NSW Government that "Approximately 59% of respondents have 'no idea' what the existing penalty is for being caught using a hand-held mobile phone while driving in NSW".<sup>156</sup>

5.33 On the basis that a significant number of motorists recognise the dangers of distraction but continue to behave in an inappropriate manner, it is clear that there need to be improved media and information campaigns highlighting the risks of distraction and also the penalties for being caught. The Committee received several submissions and heard from a number of witnesses who called for improved education. A representative of the Motorcycle Council of NSW told the Committee that:

... one of the major recommendations should be education as to the effects of distractions. I do not think people realise when they are using their mobile phones just how much they are taking their eyes off traffic and what can happen in that very short period.<sup>157</sup>

5.34 The Committee notes that the Government has begun to act on its findings and attempting to raise awareness of the current laws and dangers surrounding

---

<sup>152</sup> Submission 36, Commission for Children and Young People, p10.

<sup>153</sup> Submission 23, NRMA Insurance, p9.

<sup>154</sup> Submission 23, NRMA Insurance p4 and Submission 18, Suncorp Group Limited, p6.

<sup>155</sup> Submission 29, NSW Government, p12.

<sup>156</sup> Ibid.

<sup>157</sup> Transcript of Evidence, 17 August 2012, p38.

distraction. Assistant Commissioner John Hartley of the NSW Police told the Committee that:

We work hand-in-glove with the Centre for Road Safety, so we have a good working relationship. Obviously they are the authority with funds to do the advertising across the State. Each advertising campaign is supported by a police operation, so if we are targeting any part of the State—it might be the Central West, their own area—local media will have a message going out about mobile phone usage and police will be tasked to look at mobile phone usage as well. So we do work with them, making sure that any advertising is supported by a police operation.<sup>158</sup>

5.35 A representative from the Centre for Road Safety also told the Committee that:

The police are raising awareness at the moment, on weekdays to start with, in the city. They have done significant media in trying to increase the awareness about the dangers of mobile phone use and what it can mean to pedestrian safety and, indeed, to other road users. That is a really good recent example of an operation that really is targeting distraction among other poor behaviours in the city.<sup>159</sup>

5.36 In addition to the groundwork already in place to raise awareness, there is some recognition that a new approach may be necessary. The Committee heard from the Centre for Road Safety that:

We followed up with some more attitudinal research about what people think about mobiles. We have now turned that into a problem definition and passed it to our communications area and we are envisaging a major campaign this year to coincide or to commence with the clarification of the rule and then promulgate into a social media and a large media campaign. So we are envisaging that we would be spending a large proportion this year.<sup>160</sup>

The Committee will monitor these new campaigns and is pleased to see that mobile phone use was highlighted in Transport for NSW's recently released document: *Top 10 misunderstood road rules in NSW*.<sup>161</sup>

5.37 The illegality of using a hand-held phone while driving appears to be well known by motorists and therefore a different focus for information campaigns is warranted. The changes made to the Road Rules in November 2012 which outline the legal use of a mobile phone's hands-free functions in conjunction with an appropriate cradle, removed some of the confusion surrounding mobile phone use but the Committee notes that these changes were not well publicised, leaving a number of motorists uncertain of the exact rules of mobile phone use in vehicles.

5.38 In its submission to the Committee, the Australian Mobile Telecommunications Association stated that: "There is little or no official government information on

---

<sup>158</sup> Ibid, pp21-22.

<sup>159</sup> Ibid, pp3-4.

<sup>160</sup> Ibid, p12.

<sup>161</sup> Transport for NSW, *Top 10 misunderstood road rules in NSW* accessed at [http://www.rta.nsw.gov.au/usingroads/downloads/top\\_10\\_misunderstood\\_road\\_rules.pdf](http://www.rta.nsw.gov.au/usingroads/downloads/top_10_misunderstood_road_rules.pdf)

how to use a mobile while driving safely or on the new driving laws and the use of cradles".<sup>162</sup>

5.39 Given that most motorists want to continue to use their mobile phones while remaining within the law, there is scope for an effective campaign focussing on safe methods of using a mobile phone while driving. This campaign could promote safe methods of using a phone's hands-free functions with an appropriate cradle and outline specifically what is permitted. It may also be beneficial to highlight other safety measures available to motorists who wish to use their mobile phone, such as avoiding making calls in bad weather or heavy traffic or alerting the person they are speaking to that they are driving.<sup>163</sup>

5.40 An effective method of alerting road users to the dangers of distraction is to signal potential risks of distraction. Drivers may be aware of the legal requirements but assume that distraction does not affect them, or they may be unaware of the serious nature of distraction. Professor Regan told the Committee that:

We need to convey to people the fact that they are affected by distraction like other drivers. In particular young drivers think they are less distracted than other drivers but they are not. They are just as distractible as other drivers. So that myth has to be dealt with. Importantly, they need to be made aware of their performance. When it is degraded it is such that they are not often aware of it. If you have a look at talking on a phone, one study showed that when people are talking on a phone or engaging in another similar cognitive activity they missed about 50 per cent of all the things that they saw along their route.<sup>164</sup>

5.41 Many road users are unaware of the specific problems that can occur if they take their eyes off the road and neglect to monitor traffic flow. By illustrating these circumstances, road users can be made acutely aware of the dangers of distraction. For example, representatives of NRMA Insurance told the Committee that:

I was involved with some journalists. I put them all in the same car and put a video camera on them and asked them to text "the quick brown fox jumps over the lazy dog". We recorded how often they looked away from where they were driving while they were texting.

We had a range of people along, probably about 10 people, from memory, in their twenties to late fifties, male and female, using different types of phones. It was quite an interesting little study. We found that the average time looking away was around six seconds. The distance you can travel at 60 let alone 100 in that time is quite horrendous.<sup>165</sup>

---

<sup>162</sup> Submission 31, Australian Mobile Telecommunications Association, p 55.

<sup>163</sup> Ibid, Appendix A.

<sup>164</sup> Transcript of Evidence, 17 August 2012, p54.

<sup>165</sup> Ibid, p28.

5.42 These findings were presented in an effective video which NRMA Insurance posted on youtube.<sup>166</sup> The Committee supports this initiative as an effective way to communicate the dangers of being distracted while driving.

5.43 Similarly, examples of specific outcomes for motorists taking their eyes off the road were described by a representative from Suncorp Insurance:

But an education campaign about what the consequences of doing that are and what could potentially happen. For example, reading a text message, do you plough off into cars parked on the side of the road, do you end up bush bashing out into a paddock full of livestock or do you go head-on into a truck coming the other way? It is around the consequences of what can happen when one is distracted.<sup>167</sup>

Giving an explicit demonstration of the immediate consequences of impaired driving is a persuasive technique to highlight the dangers of distraction.

5.44 In addition to such demonstrations, it can also be beneficial to highlight the longer term impacts of road user distraction. The representative from Road Safety Education Limited told the Committee:

By looking at the long-term consequences, whether that be death and therefore the ripple effect amongst their family and friends—and that is certainly one of the things we explore with them as part of the RYDA program—or whether it be a long-term disability as a result of a crash, I think that has more power than in itself the fine or the demerit, because it is outside their experience or world view.<sup>168</sup>

5.45 The Committee also heard that campaigns which highlight the emotional consequences of serious injury or death for those involved, rather than the penalties involved, can be more effective.<sup>169</sup>

5.46 Another approach to information campaigns is to explain the rationale behind relevant legislation. Road users who are well informed about the reasons for avoiding distraction are more likely to obey rules in this area. For example, as the Committee was told:

Travelling at 60 kilometres an hour, you are travelling 16.7 metres per second. So, if you take your eyes off the road to look down at your phone for one second, you will have travelled 16 metres, and there goes your reaction time.<sup>170</sup>

5.47 Outlining clearly the reasons why road users should keep their attention on the road as much as possible can be very persuasive. The Committee heard evidence from Road Safety Education Limited that this was an effective method to gain compliance:

One of the things that we have been trying to do is to actually explain the legislation so that once they understand the thinking behind it then I think compliance will

---

<sup>166</sup> NRMA Insurance, Answers to Questions on Notice, 11 September 2012, p6. The video can be viewed at: <http://youtu.be/8wy8f5FaQ38>

<sup>167</sup> Transcript of Evidence, 24 August 2012, pp12-13.

<sup>168</sup> Transcript of Evidence, 17 August 2012, p43.

<sup>169</sup> Ibid, pp43-44.

<sup>170</sup> Ibid, p37.

improve. For example, one of the things that we talk about is passenger restrictions after 11 p.m. for P1 drivers. For the most part the initial response will be one of it's not fair and this is why it's not fair. But when you start to present to them and to share with them and get their stories about, you know, you are most at risk at these times, you put another passenger within the car and it doubles, and start to explain where this legislation came from you start to get more and more of that aha moment of I now understand that it is actually not about punishing me so much, although there is still probably an element of that, but certainly it is about trying to keep me safe. I guess what we would like to see happen more is that education process because we think that when young people understand it they are more likely to comply with it because they know what it is about.<sup>171</sup>

- 5.48 The Committee supports integrating such education messages into campaigns aimed at all road users.
- 5.49 As has been discussed, research has shown that road users of different ages and backgrounds are more susceptible to different sources of distractions. While male drivers are more likely to be involved in distraction related casualty crashes, road users aged 30 to 59 are more likely to be distracted by something outside the vehicle, while those aged 17 to 29 are more likely to be distracted by something inside the vehicle.<sup>172</sup>
- 5.50 In order to have the greatest effect, mass media and information campaigns should be targeted at specific groups. This Chapter has already discussed information aimed at younger and novice road users but other groups should receive a similar focus to get the greatest safety benefit from such campaigns.
- 5.51 The Committee notes that, "Transport for NSW is constantly developing and refining campaigns to target road users and key risk behaviours, such as driver distraction"<sup>173</sup> and hopes that it will incorporate these findings into any new campaigns.
- 5.52 A benefit of highlighting the dangers of road user distraction in general is that it raises public awareness of all forms of distraction. While hand-held phone use is becoming more prevalent, there are still many other forms of distraction as discussed in Chapter 2.
- 5.53 As previously acknowledged, significant improvements in road safety have been made in the prevention of drink driving. As Professor Regan told the Committee, "Australia has been spectacularly successful and is the envy of the world in tackling drink-driving as an issue".<sup>174</sup> The Committee hopes that in the future, there will be similar improvements in the field of road user distraction. This was also noted by a representative of the Suncorp group who reported on their conducted research:

We have seen that in terms of people's attitudes towards a willingness to indulge in risky driving behaviours we found that people's willingness towards speeding is

---

<sup>171</sup> Transcript of Evidence, 17 August 2012, p44.

<sup>172</sup> Submission 29, NSW Government, Appendix A, pp19-20 and pp40-41.

<sup>173</sup> Ibid, p 40.

<sup>174</sup> Transcript of Evidence, 17 August 2012, p51.



improving, that their attitudes towards drink-driving are improving but that their attitudes towards use of technology and driver distraction are getting worse.<sup>175</sup>

- 5.54 By improving awareness of the consequences of distraction, there will also be an added element of peer pressure which can be effective on road users of all ages. A representative from NRMA Insurance stated that:

I would like to see more effort put into making doing these things in public as socially unacceptable as drink-driving. My observation is that people are quite happy to talk on a hand-held mobile phone with other people in the car, but they would not swig from a bottle of beer while they were driving. Their passengers would find that intolerable.<sup>176</sup>

- 5.55 The Committee notes that some progress is being made in this area. The Deputy Director General of Transport for NSW told the Committee that:

The desire of the Centre for Road Safety and Transport for NSW is to raise this issue of driver distraction within the community the same as we had for drink-driving, speeding and seat belts into the community's mind through the 1970s, 1980s and 1990s to ensure that driver distraction is understood and taken very seriously. I do not believe there will be one single response to this. I believe it is an attitude we need to build up over time with our responses. My desire ... will be to bring this to the same level of attention as other responses and interventions we have had over the past three decades.<sup>177</sup>

As has been stated previously, the Committee supports this increased focus and hopes to further highlight the issues through the publication of this Report and ensuing discussion and responses to its recommendations.

- 5.56 In the course of its Inquiry, the Committee found a number of road user distraction campaigns which have been successful, both in Australia and overseas. NRMA Insurance highlighted campaigns run by the Victorian and Queensland Governments which promoted the dangers of being distracted across a variety of media and in a number of different languages.<sup>178</sup>
- 5.57 Similarly, Road Safety Education Limited drew the Committee's attention to a campaign conducted by the UK Government called 'switch off before you drive' which was also a multi-media campaign and had a supporting website with elements which specifically targeted various categories of road users.<sup>179</sup>
- 5.58 There were also calls for a "nationally consistent public education campaign to promote safe driving and safe use of communication devices and technology in cars".<sup>180</sup> While the Committee notes that the National Road Safety Strategy 2011-2020 discusses methods to minimise the effects of driver distraction,<sup>181</sup> there is

---

<sup>175</sup> Transcript of Evidence, 24 August 2012, p14.

<sup>176</sup> Transcript of Evidence, 17 August 2012, pp25-26.

<sup>177</sup> Ibid, p8.

<sup>178</sup> NRMA Insurance, Answers to Questions on Notice, 10 September 2012, pp5-6.

<sup>179</sup> Road Safety Education Limited, Answers to Questions on Notice, 10 September 2012.

<sup>180</sup> Submission 23, NRMA Insurance, p10.

<sup>181</sup> Australian Transport Council, National Road Safety Strategy 2011-2020, pp 84 and 86.

currently no consistent legislation surrounding road user distraction and the use of in-vehicle devices across Australian jurisdictions.<sup>182</sup>

5.59 Nevertheless, the Committee encourages collaboration between States and Territories to develop effective campaigns and create best practice models. The NSW Government told the Committee that:

In developing road safety awareness campaigns, Transport for NSW always scans campaigns conducted in other states and territories and will do so in developing a new major distraction campaign.<sup>183</sup>

5.60 The Committee supports a strengthened approach to share ideas and strategies across jurisdictions.

---

<sup>182</sup> Submission 31, Australian Mobile Telecommunications Association, pp50-51.

<sup>183</sup> NSW Government, Answers to Questions on Notice, 27 September 2012 p10.

## Chapter Six – Conclusions and Recommendations

- 6.1 Distraction is an issue which poses a significant safety risk to all road users. While there has been growing awareness of its impact, the rapid development and increasing take-up of electronic devices has drawn attention to the need to highlight and address the consequences of increased attentional demand on drivers and vulnerable road users.
- 6.2 The Committee has examined the nature of distraction, trends in technological development and the respective roles of regulation and education in mitigating its deleterious impacts and contribution to crash statistics. Car manufacturers, responding to consumer demand for improved connectivity, are incorporating a range of driver controlled devices in new cars which contributes to attentional demands on drivers. Some of these devices, however, can have potential safety benefits by monitoring driver alertness and controlling information overload.
- 6.3 The Committee, in commenting on these new developments, makes a series of recommendations to assist in refining policy settings and practices for agencies and practitioners with a major role to play in the area of road safety.

### DEFINITION AND DATA COLLECTION

- 6.4 While the terms ‘distraction’ and ‘inattention’ are often used interchangeably in the research literature, the Committee has been told that the lack of a standardised definition of distraction creates ambiguities which contribute to different estimates of its role as a contributing factor in road crashes. A more precise definition would allow a more accurate assessment of its impact and enable clear categorisation and data comparison. Internationally, road safety experts have recommended that a common definition be adopted to provide clarity, improve classification systems for coding crash data and enable better targeted countermeasures to be adopted.
- 6.5 In its previous reports, Staysafe has recommended that crash data collection and management be improved and is aware that this has been progressed by an interagency working group. The Committee supports efforts to provide a more meaningful data base by which to better target safety interventions. The lack of a standard definition of distraction, to differentiate it from other factors contributing to crash risk, is an issue for all road safety jurisdictions in Australia. This fact was also highlighted in the report of the Victorian Parliamentary Road Safety Committee in 2006.

### RECOMMENDATION 1

**The development of comprehensive and accurate crash data is vital for developing and implementing road safety initiatives, and the Committee recommends that Transport for NSW raises the necessity for a standard definition of distraction as an agenda item for consideration by the Council of Australian Governments Standing Council on Transport and Infrastructure. This**

**definition should also incorporate a specific set of categories for distraction, to distinguish it from fatigue and inattention.**

- 6.6 The Committee also received evidence from the NSW Department of Health concerning the lack of data availability for mobile phone use at crash sites and the difficulties of its identification in administrative data sets based on injury coding. According to NSW Police, the use of mobile phones and other devices is under-reported because of difficulty in detecting their use in crash events.
- 6.7 The Committee was further told that no powers are currently prescribed under Road Transport legislation compelling a driver involved in a crash to give police access to or to compel the surrender of a mobile phone. While phones may be seized pursuant to the Law Enforcement Powers and Responsibilities Act, this requires supporting evidence that the phone was used at the time of the crash. A complicating factor is that call records in themselves may not conclusively prove that the phone was being used at the precise time of impact, as this may be difficult to establish.
- 6.8 In the absence of accurate distraction specific data collection through the Crashlink data system, it is the Committee's view that more work should be done by administrative and legislative means to improve the evidence base relating to distraction as a factor in injury and fatality statistics.

## RECOMMENDATION 2

**The Committee recommends that Transport for NSW, in collaboration with NSW Police, investigate legislative means to enable the collection of mobile phone data from vehicles at crash sites to determine their possible contribution to the crash outcome.**

## ELECTRONIC DEVICES

- 6.9 The continuing development and take-up of electronic devices has greatly increased their involvement in the overall risk profile for all road users. A major focus of the Committee's report is the use of mobile phones, particularly by drivers, and its contribution to distraction risk. These phones now have greater functionality and incorporate complex social media platforms and other applications which require greater concentration to operate, therefore increasing the cognitive load on users.
- 6.10 Another potential source of distraction which is becoming increasingly common in vehicles is the use of Global Positioning Systems [GPS]. While many newer vehicles now have GPS as a standard feature, owners of older vehicles are easily able to buy and install their own choice of models. It is also common for smart phones to have GPS systems available.
- 6.11 The positioning of these devices within the vehicle cabin is an issue which warrants further attention. Evidence provided supports the location of electronic devices, including mobile phone cradles, in a position where the driver can glance momentarily at the device without creating a significant blind spot.

- 6.12 According to Transport for NSW, the mandatory vehicle standard Australian Design Rule (ADR) 42/04 General Safety Requirements covers the positioning of visual display units within vehicles. The Commonwealth Department of Infrastructure and Transport has refused Compliance Plate Approval for certain European vehicles for non-compliance with ADR 42/04. The Federal Chamber of Automotive Industry also supports the provision of more practicable rules for vehicle design to prevent driver distraction.

### RECOMMENDATION 3

**The Committee recommends that Transport for NSW makes greater efforts to ensure the enforcement of appropriate standards for the location and installation of mobile electronic devices in vehicles.**

### RECOMMENDATION 4

**The Committee further recommends that Transport for NSW, as part of the development of the NSW and National Road Safety strategies, supports amendments to Australian Design Rule 42/05 to clarify the status of a driver's aid to limit driver distraction from in-vehicle electronic devices.**

### RECOMMENDATION 5

**Additionally, the Committee recommends that Transport for NSW consults vehicle manufacturers to ensure that they are compliant with current and proposed Australian Design Rules.**

- 6.13 The Committee was also alerted to the incorporation of new technology and electronic devices in vehicles without appropriate research to assess their impact on the driving task and supports further assessment of their safety risks and claimed benefits.

### RECOMMENDATION 6

**The Committee recommends that Transport for NSW promotes improved testing of all new in-vehicle electronic devices for their driver distraction impacts. Clarifying appropriate standards of design and operation will assist in preventing unsafe devices from being included in vehicles sold in Australia.**

- 6.14 A constant theme of this Inquiry has been the rapid development of technology, both in hand-held personal devices as well as in systems being integrated into vehicles. One potential means of reducing the impact of the range of in-vehicle technologies becoming available is known as a workload manager. This device can identify the driving conditions and the workload level of the driver and react accordingly so that there are fewer distractions available and ensure that the driver's attention is focussed on the driving task in demanding situations.
- 6.15 Workload management systems are available in a few vehicles in Australia, but are not yet commonplace. The Committee recognises the potential of such technology and considers that further studies into the effectiveness of workload managers and real-time driver distraction warning systems are warranted. If studies prove that these systems are successful, they will become an important tool in preventing driver distraction.

## RECOMMENDATION 7

**The Committee recommends that Transport for NSW investigates the potential benefits of workload managers for reducing distraction impacts for drivers with a view to promoting their greater dissemination and inclusion in safety equipment for new vehicles.**

## REGULATORY REMEDIES AND ENFORCEMENT

- 6.16 Overwhelming evidence suggests that there is a significant correlation between mobile phone use and crash risk, particularly when hand-held. Research carried out by Roads and Maritime Services clearly indicates that the major category of drivers using phones in a hand-held mode while driving is P2 licence holders and drivers in the 16-34 age category.
- 6.17 These research findings are reinforced in the 2012 AAMI Crash Index, which found that more than 40% of drivers between the ages of 18 and 24 admit to having sent or received mobile phone text messages while driving. Crash Index survey driver respondents themselves recognise the risks involved and 50% of support a complete ban, including hands-free use, on mobile phones in the vehicle.

## RECOMMENDATION 8

**The Committee supports the view of the National Road Safety Council that targeting at risk groups in the driving population is likely to be more effective in reducing crash risk and therefore recommends that the current prohibition on mobile phone use by P1 drivers be extended to cover P2 drivers.**

- 6.18 The NSW Police Force suggested that a significant deterrent for drivers using hand-held mobile phones may be to substantially increase the penalty for a second offence. This was also supported by the NRMA and would send a stronger signal to all drivers about the dangers that illegal phone use poses when driving.

## RECOMMENDATION 9

**The Committee recommends that Transport for NSW urgently progresses its work with the NSW Police Force to develop an enhanced enforcement approach to mobile phone use while driving. Consideration should be given to increasing the penalties applying to second and repeated offences for the use of hand-held mobile phones by vehicle drivers.**

- 6.19 Transport for NSW told the Committee that it is currently examining the possible creation of a separate category of offence for the sending or receiving of text messages, email or similar communication. This is being discussed in the context of evaluating the impacts of emerging in-vehicle devices and is part of the deliberations of the National Transport Commission's Road Rules Maintenance Group. The distraction effects of using phones for transmission of messaging other than voice communication poses a much more serious crash risk and the Committee supports the creation of such an additional offence category.

## RECOMMENDATION 10

**The Committee recommends that Transport for NSW expedites the creation of a separate offence category for the use of mobile devices for sending or receiving non-voice based communication while driving.**

### ROADSIDE ADVERTISING AND SIGNAGE

- 6.20 As previously outlined, the Minister for Planning and Infrastructure and local councils are jointly responsible for outdoor advertising, external visual displays and road signage. Development controls and policies aim to ensure that advertising is consistent with the surrounding area, not visually intrusive and does not pose a road or pedestrian safety risk.
- 6.21 The primary State environmental planning instrument in this area, SEPP64, was introduced in 2001 in response to the need for consistency in advertising sign regulations to ensure permissibility, design and safety. The Planning Policy was updated in 2007, to provide a greater role for councils and is currently being reviewed.
- 6.22 The two major issues relating to the distraction effects of advertising and signage identified during the Inquiry relate to the impact of variable electronic message signs and the use of on-premise private signs in close proximity to the roadway. Concerns about electronic variable signs relate to the length of time messages are displayed and the intrusive effects of digital billboards capable of interacting with communication devices inside the vehicle.
- 6.23 Transport for NSW is currently reviewing the dwell time for such variable message signs in consultation with the Department of Planning and Infrastructure and the Outdoor Media Association. This review is also examining the safety impact of colours used in the image and has been conducted for some time, without reaching agreement on defined outcomes.

## RECOMMENDATION 11

**The Committee recommends that Transport for NSW finalises, as a matter of urgency, its review of variable message signs in order to provide greater certainty for drivers and the outdoor media industry concerning the safe operation and locations of such signs.**

## RECOMMENDATION 12

**The Committee further recommends that Transport for NSW conducts research into the impact of digital billboard signage interacting with electronic devices within vehicles to determine safety risks associated with their increasing use.**

- 6.24 The increasing proliferation and lack of enforcement of regulations and technical directions governing roadside variable messaging signs, particularly operated on private premises adjacent to roadways poses a major and cumulative danger for driver distraction and road safety generally. The Committee was told that such signs are currently only subject to reactive compliance checks by Councils.

- 6.25 The National Road Safety Council proposes a general reduction in signage adjacent to roadways, particularly where they interrupt the sight lines of other road users, such as cyclists and pedestrians and clutter the road environment.

### RECOMMENDATION 13

**The Committee recommends that the Department of Planning and Infrastructure and Transport for NSW strengthen the compliance regime for the use of on-premise digital signage to bring these into line with other signage regulated under State environmental planning instruments.**

### RECOMMENDATION 14

**The Committee also recommends that Transport for NSW commissions detailed research to determine the impact of advertising signage on crash rates at locations where road signs are displayed. In cases where signage is placed at high crash incidence sites, the suitability of these sites for roadside signage should be reviewed.**

- 6.26 The NSW taxi fleet operates an electronic dispatch system, which sends and receives information to enable the efficient transportation of passengers and is an integral part of taxi fleet operations. While the hardware used in taxi dispatch systems is designed and mounted in accordance with Australian Design Rules, some criticism has been made in evidence to the Committee about its operation. The NRMA has raised concerns about the size and location of these units in the vehicle cabin and their ability to create visual distraction.

### RECOMMENDATION 15

**The Committee recommends that Transport for NSW reviews the current operation of the NSW taxi industry dispatch system, with a view to ensuring that the mounted units comply with standards to limit driver distraction by in-vehicle electronic devices.**

### RECOMMENDATION 16

**As part of the review of the taxi dispatch system, the Committee also recommends that Transport for NSW examines the increasing use by passengers and some drivers of unauthorised dispatch systems and its potential to compromise safety.**

## ROAD SAFETY EDUCATION

- 6.27 In the NSW school curriculum, students are taught road safety at both primary and secondary level. The Department of Education and the Centre for Road Safety collaborate to keep course material current to cover rapidly evolving developments in communication technology and to ensure that students are made aware of the specific dangers of distraction.
- 6.28 It is also worth noting that young people are often early adopters of any new technology such as hand-held electronic devices and are therefore especially vulnerable to the effects of distraction. Given that distraction is becoming an increasing danger to all road users and the fact that school-based education is the



best way to reach young people, it is the view of the Committee that more emphasis should be placed on the dangers of distraction in the road safety elements of the PDHPE syllabus for year K-10. The Committee was told that consideration is being given to covering this from a range of age perspectives and not just from the vantage point of young drivers.

### RECOMMENDATION 17

**The Committee recommends that the Department of Education and the Centre for Road Safety revise and expand the NSW PDHPE school syllabus by including specific material on road safety distraction, covering all age groups, with a specific focus on young people in a variety of road user categories including pedestrians, passengers, wheels users or future drivers.**

- 6.29 There is a growing preference for younger people to interact and gather information through modern means such as social media. To reach the greatest number of younger road users and explain the dangers of distraction in the most relevant manner, it would be beneficial for the NSW Government to improve its presence in these media channels. This should include specific campaigns aimed at informing young people about the dangers of distraction.

### RECOMMENDATION 18

**The Committee recommends that Transport for NSW, as part of its educational and campaign strategies, makes greater use of social media to promote messages focussing on distraction and its impacts on road safety. In particular, the Geared website should be more widely disseminated on social media platforms to better target its core audience of young people.**

### MEDIA CAMPAIGNS

- 6.30 Research data from recently conducted surveys indicates that public knowledge concerning the dangers of distracted driving and the penalties for illegal use of electronic devices is still deficient. New approaches to awareness raising should be developed and the Committee supports efforts in this regard. The recently released document highlighting the prohibited use of hand-held phones while driving by Transport for NSW as part of the top 10 misunderstood road rules in NSW, while useful, does not provide sufficient information about the general use of phones while driving.
- 6.31 A public campaign could promote safe methods of using a phone's hands-free functions with an appropriate cradle and outline specifically what constitutes legal use in a vehicle. It would also be beneficial to highlight other safety measures available to motorists who wish to use their mobile phone, such as avoiding making calls in inclement weather or heavy traffic or alerting the caller that they are driving.

### RECOMMENDATION 19

**The Committee recommends that Transport for NSW develops a campaign to alert drivers to the optimal use of mobile phones while driving in order to reduce the potential for driver distraction. Such a campaign should highlight the**

**potential consequences of distraction related impaired driving, which may result in serious injury and fatality.**

- 6.32 In its discussion of factors contributing to distraction, the Committee has drawn attention to the emphasis on task demand and the lack of research into self-regulation as a key determinant of crash risk. Self-regulation is described as the ability of road users to modify and regulate their behaviour in anticipation of or in response to a distracting event and may involve turning off mobile phones, reducing conversation or, in the case of drivers, reducing speed during phone conversations.

#### RECOMMENDATION 20

**The Committee recommends that Transport for NSW, as part of its next road safety campaign directed at drivers and other road users, devises messages to highlight the role of self-regulation as an important factor influencing distraction impact on crash risk.**

#### VULNERABLE ROAD USERS

- 6.33 Throughout the Report, reference has been made to the use of electronic devices by other road users such as pedestrians and cyclists. Many of the same factors apply to these groups, although the cognitive load may not be as high as for vehicle drivers, where the complexity of the driving task compounds the safety risk. Conscious of the need to also reach this group of road users, the Committee supports increased research on distraction factors in crash data involving vulnerable road users.

#### RECOMMENDATION 21

**The Committee recommends that Transport for NSW commissions specific research into the impact of distraction on vulnerable road users, specifically examining age and gender related effects, with a view to devising appropriate interventions and countermeasures to minimise its impact on this group.**

## Appendix One – List of Submissions

1	Mr Steve Gilhooley
2	Mr Barney Remond
3	Confidential
4	Mr Trevor Carroll
5	Mr Roel ten Cate
6	Mr James Davitt
7	Mr Richard Manuell
8	Mr Peter Maher
9	Mr G Bohringer
10	Mr John Attard
11	Mr Keith Ralfs
12	Ms Shirley Sheppard
13	Mr Michael Sobb
14	Mr Denis Grant
15	Department of Education and Communities
16	NSW Taxi Council
17	Motorcycle Council of NSW
18	Suncorp Group Limited
19	Non-Smokers' Movement of Australia Inc
20	Confidential
20a	Confidential
21	Department of Planning and Infrastructure
22	Australian Transport Safety Bureau
23	NRMA Insurance
24	NRMA Motoring and Services
25	Outdoor Media Association
26	Ministry of Health
27	Holdings Driver Training
28	ROADwhyz
29	NSW Government
30	Transport Workers' Union of New South Wales

JOINT STANDING COMMITTEE ON ROAD SAFETY (STAYSAFE)

LIST OF SUBMISSIONS

31	Australian Mobile Telecommunications Association
32	Headstart ABI Service
33	Road Safety Education Limited
34	Confidential
35	Mr Tom Sherlock
36	Commission for Children and Young People
37	Pedestrian Council of Australia Limited
38	City of Sydney
39	Transport and Road Safety Research
40	National Road Safety Council (Australia)

## Appendix Two – List of Witnesses

17 AUGUST 2012, MACQUARIE ROOM, PARLIAMENT HOUSE

Witness	Position and Organisation
Ms Margaret Prendergast Mr Tim Reardon Mr Evan Walker	Acting General Manager, Centre for Road Safety Deputy Director General, Policy and Regulation Acting Principal Manager, Safer People, Centre for Road Safety <i>Transport for NSW</i>
Ms Cheryl Best	General Manager, Learning and Development <i>Department of Education and Communities</i>
Ms Penelope Musgrave	Director, Criminal Law Review <i>Department of Attorney General and Justice</i>
Mr Andrew Nicholls	Acting General Manager <i>Motor Accidents Authority</i>
Mr Christopher Wilson	Executive Director, Major Development Assessment <i>Department of Planning and Infrastructure</i>
Assistant Commissioner John Hartley	Commander Traffic and Highway Patrol <i>NSW Police Force</i>
Mr Robert McDonald Ms Cecilia Warren	Senior Manager, Research Centre Government Relations Manager <i>NRMA Insurance Limited</i>
Mr Peter Ramshaw	Chief Executive Officer <i>New South Wales Taxi Council</i>
Mr Christopher Burns Mr Brian Wood	Chairman Vice Chairman <i>Motorcycle Council of NSW Inc</i>
Mr Gregory Phillip Cantwell	Director, Policy and Research <i>Road Safety Education Ltd</i>
Professor Michael Regan	<i>Transport and Road Safety Research (TARS)</i>
Dr Raymond Soames Job	Executive Director <i>National Road Safety Council (Australia)</i>

24 AUGUST 2012, MACQUARIE ROOM, PARLIAMENT HOUSE

---

<b>Witness</b>	<b>Position and Organisation</b>
Mr Harold Scruby	Chairman and Chief Executive Officer <i>Pedestrian Council of Australia</i>
Mr Reuben Aitchison Mr Michael Thomas	Corporate Affairs Manager Manager, Government & Stakeholder Relations <i>Suncorp Group</i>
Ms Charmaine Moldrich	Chief Executive Officer <i>Outdoor Media Association</i>
Mr Christopher Althaus Mr Randal Markey	Chief Executive Communications Manager <i>Australian Mobile Telecommunications Association</i>
Mr Allan Porter Mr David Wrigley	Executive Director President <i>Australian Driver Trainers Association (NSW) Ltd</i>

---

## Appendix Three – Extracts from Minutes

### Minutes of Proceedings of the Joint Standing Committee on Road Safety (no. 7)

1.00pm, Wednesday, 22 February 2012  
Room 1254, Parliament House

#### Members Present

Mr Aplin (Chair), Mr Ayres, Mr Colless, Ms Faehrmann, Mr Secord, Mr Webber and Mr Williams

#### Apologies

Mr Furolo

The Chair commenced the meeting at 1.08pm.

#### 1. Confirmation of Minutes

**Resolved**, on the motion of Mr Williams, that the minutes of the deliberative meeting and public hearing conducted on 16 November 2011 be confirmed; and

**Resolved**, on the motion of Mr Webber, that the minutes of the deliberative meeting and public hearing conducted on 21 November 2011 be confirmed

#### 2. \*\*\*\*

#### 3. New Inquiry

The Committee deliberated on proposed terms of reference for an inquiry into driver and road user distraction.

**Resolved**, on the motion of Mr Ayres:

'That the Committee adopts the proposed terms of reference for an Inquiry into Driver and Road User Distraction.'

The Committee discussed a list of potential stakeholders to be invited to make submissions to the inquiry. The standard list was amended with the addition of: vehicle manufacturers, representatives of the telecommunications industry, youth and student groups, and the taxi industry.

The final list will be finalised and adopted at the Committee's next meeting.

The Committee adjourned at 1.28pm until 1.00pm Wednesday, 14 March 2012.

## Minutes of Proceedings of the Joint Standing Committee on Road Safety (no. 8)

1.00pm, Wednesday, 14 March 2012  
Room 1254, Parliament House

### Members Present

Mr Aplin (Chair), Mr Ayres, Mr Colless, Mr Furolo, Mr Secord, Mr Webber and Mr Williams

### Apologies

Ms Faehrmann

The Chair commenced the meeting at 1.05pm.

### 1. Confirmation of Minutes

**Resolved**, on the motion of Mr Webber, that the minutes of the deliberative meeting conducted on 22 February 2012 be confirmed.

### 2. Driver and Road User Distraction Inquiry

The Committee deliberated on the conduct of the Inquiry.

**Resolved**, on the motion of Mr Williams:

'That the Inquiry be advertised calling for submissions by 27 April 2012.'

3. \*\*\*\*

4. \*\*\*\*

The Committee adjourned at 1.55pm until 1.00pm Wednesday, 4 April 2012.

## Minutes of Proceedings of the Joint Standing Committee on Road Safety (no. 9)

1.00pm, Wednesday, 4 April 2012  
Room 1254, Parliament House

### Members Present

Mr Aplin (Chair), Mr Colless, Mr Secord, Mr Webber and Mr Williams

### Apologies

Apologies were received from Mr Ayres, Ms Faehrmann and Mr Furolo

The Chair commenced the meeting at 1.02pm.



## 1. Confirmation of Minutes

**Resolved**, on the motion of Mr Colless, that the minutes of the deliberative meeting conducted on 14 March 2012 be confirmed.

## 2. \*\*\*\*

## 3. Driver and Road User Distraction Inquiry

The Chair updated the Committee on the progress of its current inquiry and discussed potential dates for public hearings following the submission deadline.

The Committee noted that the inquiry topic was receiving interest and it was a common topic in the media, both nationally and internationally.

The Committee adjourned at 1.09pm until 1.00pm Wednesday, 9 May 2012.

## Minutes of Proceedings of the Joint Standing Committee on Road Safety (no. 10)

1.00pm, Wednesday, 9 May 2012  
Room 1254, Parliament House

### Members Present

Mr Aplin (Chair), Mr Colless, Mr Ayres, Ms Faehrmann, Mr Furolo, Mr Secord, Mr Webber and Mr Williams

The Chair commenced the meeting at 1.02pm.

## 1. Confirmation of Minutes

**Resolved**, on the motion of Mr Webber, that the minutes of the deliberative meeting conducted on 4 April 2012 be confirmed.

## 2. Driver and Road User Distraction Inquiry

Committee staff provided electronic copies of the submissions to Members and the Committee agreed to review the submissions before the next meeting.

The Chair updated the Committee on the progress on the inquiry and indicated that the submissions would be authorised for publication at the next meeting. A proposed hearing schedule will also be discussed at the meeting on 30 May 2012.

## 3. \*\*\*\*

The Committee adjourned at 1.12pm until 1.00pm Wednesday, 30 May 2012.

## Minutes of Proceedings of the Joint Standing Committee on Road Safety (no. 11)

1.00pm, Wednesday, 30 May 2012  
Room 1254, Parliament House

### Members Present

Mr Aplin (Chair), Mr Colless, Mr Furolo, Mr Secord, Mr Webber and Mr Williams

### Apologies

Apologies were received from Mr Ayres and Ms Faehrmann

## 1. Confirmation of Minutes

**Resolved**, on the motion of Mr Furolo, that the minutes of the deliberative meeting conducted on 9 May 2012 be confirmed.

## 2. Driver and Road User Distraction Inquiry

The Committee deliberated on the publication of submissions received in connection with the Inquiry.

**Resolved**, on the motion of Mr Furolo, that the Committee receives and authorises the publication of submissions 1 to 39 and orders that they be placed on the Parliament's website.

The Committee deliberated on potential hearing dates for the Inquiry and requested that possible dates in August be circulated, for final confirmation at the next Committee meeting on 20 June 2012.

3. \*\*\*\*

4. \*\*\*\*

The Committee adjourned at 1.59pm until 1.00pm Wednesday, 20 June 2012.

## Minutes of Proceedings of the Joint Standing Committee on Road Safety (no. 13)

1.00pm, Wednesday, 20 June 2012  
Room 1254, Parliament House

### Members Present

Mr Aplin (Chair), Mr Ayres, Mr Colless (Deputy Chair), Mr Furolo, Mr Secord, Mr Webber

### Apologies

Apologies were received from Ms Faehrmann and Mr Williams

The Chair commenced the meeting at 1.00pm.

## 1. Confirmation of Minutes

**Resolved**, on the motion of Mr Furolo, that the minutes of the deliberative meetings conducted on 30 May and 15 June 2012 be confirmed.

## 2. Driver and Road User Distraction Inquiry

The Committee deliberated on the publication of submissions received in connection with the Inquiry and dates for public hearings in Sydney.

**Resolved**, on the motion of Mr Furolo, that the Committee receives and authorises the publication of submissions 20a to 40 and orders that they be placed on the Parliament's website.

**Resolved**, that public hearings be conducted at Parliament House on 17 and 24 August 2012.

The Committee deliberated on a draft witness schedule for the public hearings on 17 and 24 August 2012.

**Resolved**, that the proposed list of witnesses be endorsed and that the Secretariat make appropriate administrative arrangements for the conduct of the public hearings.

## 3. \*\*\*\*

The Committee adjourned at 1.10pm until 1.00pm Wednesday, 22 August 2012.

## Minutes of Proceedings of the Joint Standing Committee on Road Safety (no. 14)

9.00am, Friday 17 August 2012

Macquarie Room, Parliament House

### Members Present

Mr Aplin (Chair), Mr Ayres, Mr Colless, Ms Faehrmann, Mr Furolo, Mr Secord, Mr Webber and Mr Williams

### Driver and Road user Distraction Inquiry - Public Hearing

The Committee commenced its hearing at 9.00am. The public was admitted.

#### *NSW Government*

Mr Tim Reardon, Deputy Director General, Policy and Regulation, Transport for NSW; Ms Margaret Prendergast, Acting General Manager, Centre for Road Safety, Transport for NSW; Mr Evan Daniel Walker, Acting Principal Manager, Safer People, Centre for Road Safety; Ms Cheryl Best, General Manager, Learning and Development, Department of Education and Communities; and Ms Penelope Musgrave, Director, Criminal Law Review, Department of Attorney General and Justice were affirmed and examined. Mr Andrew Nicholls, Acting General Manager, Motor Accidents Authority; and Mr Christopher Wilson, Executive Director,

Major Development Assessment, Department of Planning and Infrastructure were sworn and examined.

**Resolved**, on the motion of Mr Secord, that representatives of the media be allowed to record and broadcast the proceedings of the public hearing.

Evidence completed, the witnesses withdrew.

*NSW Police Force*

Assistant Commissioner John Hartley, Commander Traffic and Highway Patrol was sworn and examined.

Evidence completed, the witness withdrew.

*NRMA Insurance Limited*

Mr Robert McDonald, Senior Manager, Research Centre was affirmed and examined. Ms Cecilia Warren, Government Relations Manager was sworn and examined.

Evidence completed, the witnesses withdrew.

*New South Wales Taxi Council*

Mr Peter Ramshaw, Chief Executive Officer, was affirmed and examined.

Evidence completed, the witness withdrew.

## Private Meeting

The public hearing was adjourned at 12.30pm to conduct a private meeting of the Committee.

## Confirmation of Minutes

**Resolved**, on the motion of Mr Furolo, that the minutes of the deliberative meeting conducted on 20 June 2012 be confirmed.

The Committee adjourned at 12.40pm to reconvene the public hearing.

## Driver and Road User Distraction Inquiry - Public Hearing

The Committee recommenced its hearing at 1.30pm. The public was admitted.

*Motorcycle Council of NSW Inc*

Mr Christopher James Burns, Chairman; and Mr Brian Walter Wood, Vice Chairman were affirmed and examined.

Evidence completed, the witnesses withdrew.

*Road Safety Education Ltd*

Mr Gregory Phillip Cantwell, Director, Policy and Research was sworn and examined.

Evidence completed, the witness withdrew.

*Transport and Road Safety Research (TARS)*

Professor Michael Arthur Regan was affirmed and examined.

Evidence completed, the witness withdrew.

*National Road Safety Council (Australia)*

Dr Raymond Franklin Soames Job, Executive Director was affirmed and examined.

Evidence completed, the witness withdrew.

## **Publication of Evidence**

**Resolved**, on the motion of Mr Furolo, that the Committee authorise to publish the transcript of the evidence taken today on the Committee's website, after making corrections for recording inaccuracy, together with the answers to any questions taken on notice in the course of today's hearing.

## **Adjournment**

The Committee adjourned at 4.40pm until 9.00am on Friday, 24 August 2012 at Sydney.

## **Minutes of Proceedings of the Joint Standing Committee on Road Safety (no. 15)**

9.00am, Friday 24 August 2012

Macquarie Room, Parliament House

## **Members Present**

Mr Aplin (Chair), Mr Ayres, Mr Colless, Ms Faehrmann, Mr Furolo, Mr Secord and Mr Williams

## **Apologies**

An apology was received from Mr Webber

## **Driver and Road User Distraction Inquiry - Public Hearing**

The Committee commenced its hearing at 9.00am. The public was admitted.

*Pedestrian Council of Australia*

Mr Harold Charles Scruby, Chairman and Chief Executive Officer was affirmed and examined.

Evidence completed, the witness withdrew.

*Suncorp Group*

Mr Michael James Thomas, Manager, Government and Stakeholder Relations was affirmed and examined. Mr Reuben Zane Aitchison, Corporate Affairs Manager was sworn and examined.

Evidence completed, the witnesses withdrew.

*Outdoor Media Association*

Ms Charmaine Margaret Moldrich, Chief Executive Officer, was affirmed and examined.

Evidence completed, the witness withdrew.

*Australian Mobile Telecommunications Association*

Mr Randal Spencer Markey, Communications Manager was sworn and examined. Mr Christopher William Althaus, Chief Executive was affirmed and examined.

Evidence completed, the witnesses withdrew.

*Australian Driver Trainers Association (NSW) Ltd*

Mr Allan Porter, Executive Director and David Gerard Wrigley, President were sworn and examined.

Evidence completed, the witnesses withdrew.

## Publication of Evidence

**Resolved**, on the motion of Mr Furolo, that the Committee authorise to publish the transcript of the evidence taken today on the Committee's website, after making corrections for recording inaccuracy, together with the answers to any questions taken on notice in the course of today's hearing.

## Adjournment

The Committee adjourned at 12.30pm until 1.00pm on Wednesday, 17 October 2012 at Sydney.

## Minutes of Proceedings of the Joint Standing Committee on Road Safety (no. 16)

1.00pm, Wednesday, 17 October 2012  
Room 1254, Parliament House

## Members Present

Mr Aplin (Chair), Mr Ayres, Mr Colless (Deputy Chair), Ms Faehrmann, Mr Furolo, Mr Secord, Mr Webber

## Apologies

An apology was received from Mr Williams

The Chair commenced the meeting at 1.04 pm.

### 1. Confirmation of Minutes

**Resolved**, on the motion of Mr Furolo, that the minutes of the deliberative meetings and public hearings conducted on 17 August and 24 August 2012 be confirmed.

### 2. \*\*\*\*

### 3. Driver and Road User Distraction Inquiry

The Committee noted the draft outline for the Report on the Inquiry into Driver and Road User Distraction.

4. \*\*\*\*

5. \*\*\*\*\*

The Committee adjourned at 1.35 pm until 1.00pm Wednesday, 14 November 2012

## Minutes of Proceedings of the Joint Standing Committee on Road Safety (no. 18)

1.00pm, Wednesday, 27 February 2013  
Room 1254, Parliament House

### Members Present

Mr Aplin (Chair), Mr Ayres, Mr Furolo, Mr Secord, Mr Webber, Mr Williams

### Apologies

Apologies were received from Mr Colless and Ms Faehrmann

The Chair commenced the meeting at 1.03 pm.

#### 1. Confirmation of minutes

**Resolved** on the motion of Mr Webber, seconded by Mr Williams, that the minutes of the deliberative meeting conducted on 27 November 2012 be confirmed.

#### 2. Driver and Road User Distraction Inquiry

Members were advised that the draft report would be circulated a week before the next deliberative meeting and were requested to submit comments on the report to the Inquiry Manager prior to the meeting.

The Committee adjourned at 1.11 pm until 1.00pm Wednesday, 20 March 2013.

## Minutes of Proceedings of the Joint Standing Committee on Road Safety (no. 19)

1.00pm, Wednesday, 20 March 2013  
Room 1254, Parliament House

### Members Present

Mr Aplin (Chair), Mr Ayres, Mr Colless, Ms Faehrmann, Mr Park, Mr Secord, Mr Webber, Mr Williams

The Chair commenced the meeting at 1.01 pm.

#### 3. Confirmation of minutes

**Resolved** on the motion of Mr Webber, that the minutes of the deliberative meeting conducted on 27 February 2013 be confirmed.

#### 4. Driver and road user distraction inquiry

*Consideration of Chair's draft report*

**Resolved** on the motion of Mr Colless, that deliberation on the draft report be conducted by considering the report's recommendations.

**Resolved** on the motion of Mr Secord, that the recommendations be considered in globo, with Members moving amendments to particular recommendations.

Mr Park sought clarification of Recommendation 10. Discussion ensued.

Ms Faehrman moved that Recommendation 11 be amended by the addition of the words 'and locations' after the words 'safe operation'.

**Resolved** on the motion of Ms Faehrmann, that Recommendation 11 as amended, stand part of the report.

Mr Colless raised the issue of vulnerable road user distraction. Discussion ensued.

**Resolved** on the motion Mr Colless, that the Committee adopts the draft report into road user distraction, as amended and signed by the Chair and that the secretariat be authorised to make appropriate final editing and stylistic changes, as required.

5. \*\*\*\*\*

6. \*\*\*\*\*

The Committee adjourned at 1.24 pm until 1.00pm Wednesday, 1 May 2013.



