



DRIVE IN THE  
MOMENT

# COMPARATIVE ANALYSIS

## AUSTRALIAN DRIVERS

AUGUST 2020





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## 1. ADDENDUM ONE

# A COMPARATIVE ANALYSIS OF YOUNGER AND OLDER AUSTRALIAN DRIVERS

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In 2018, the Australian Automobile Association (AAA) partnered with the New Zealand Automobile Association (NZAA) and successfully applied for a Fédération Internationale de l'Automobile (FIA) Road Safety Transformation Grant to enable it to commission research to build an evidence-based tool kit of intervention resources aimed at reducing young drivers' in-vehicle mobile phone use.

The AAA then commissioned the Centre for Accident Research and Road Safety – Queensland (CARRS-Q) at the Queensland University of Technology in Brisbane, Australia, to investigate smartphone use while driving.

While the original research design was focused on collecting data from young Australian drivers (aged 17-25 years), during the study its scope expanded to include the collection of data from:

- drivers in Australia aged 26 years and over
- drivers in New Zealand aged 17-25 years
- drivers in New Zealand aged 26 years and over.

In mid-2020, CARRS-Q provided the AAA with three comprehensive technical academic reports covering three streams of distracted driving research. These reports are available from the AAA website.

The final report was prepared for the FIA as part of the AAA's reporting obligations under the Transformation Grant scheme (Australian Automobile Association, 2020). Its focus was young Australian drivers and how the research and the broader body of literature informed the development of the toolkit of intervention resources.

This comparative analysis draws on the CARRS-Q reports and focuses on comparing aspects of mobile phone use while driving for the two Australian samples: drivers aged 17-25 years, and drivers aged 26 years or more. It is written as an addendum to the final report for the FIA.

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**In 2020 CARRS-Q provided the AAA with three comprehensive technical academic reports covering research streams 1-3. These reports are available by request, visit: [www.aaa.asn.au/research](http://www.aaa.asn.au/research)**

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# HOW AND WHY AUSTRALIAN DRIVERS USE SMARTPHONES

## 2.1 PREVALENCE OF SMARTPHONE USE WHILE DRIVING

The final report for the FIA offers a caution about structuring education and communication campaign materials around the prevalence of phone use while driving, because it can act to normalise the behaviour and undermine attempts to help drivers reduce their phone use. Nevertheless, there is value in understanding different patterns of phone use while driving to gain insights into the ways drivers engage with their phones.

The broader body of literature identifies that some people do not understand what “using your phone” while driving means, so strategies need to cover a range of behaviours / uses so people don’t disengage thinking they do not apply to them. The different ways drivers engage with their phones identified in this research expands the ways we can stimulate discussions about mobile phone distracted driving beyond the more “traditional” uses of phones such as calling and texting.

Table 1 and Figure 1 compare how the different age groups of Australian drivers engage with four general distracted driving behaviours in a typical week.

Overall, young Australian drivers engage more with these four general distracted driving behaviours than do drivers 26+ years of age. The most marked difference is in the percentage of drivers who look at the screen of the phone when they are holding it while driving (which is illegal in Australia).

While most young drivers do not do this (less than half; 46.1%), there are far fewer drivers aged 26+ years of age who do (28.1%).

Most Australian drivers also do not look at the screens of their phones when they are in cradles (devices to hold the smartphone in the driver’s field of view in the vehicle) while driving (which is legal in Australia). Again, less than half of young drivers do this: 46.2% compared with fewer drivers aged 26+ years of age; 37.4%. There are similar rates of engagement with voice and vehicle controls.

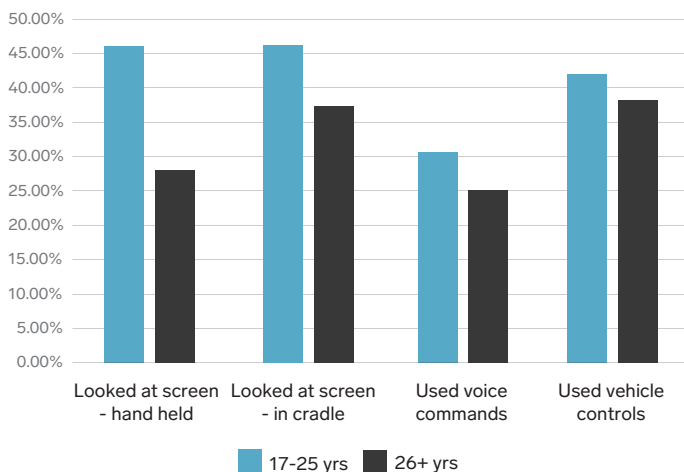
While this reinforces that there continues to be a need to focus on reducing young drivers’ hand-held mobile phone use while driving, it also highlights this should not be at the expense of drivers aged 26+ years of age, where gains can also be made. The broader body of research identifies that legal ways of engaging with mobile phones while driving can also be distracting and divert attention away from the primary driving task (House of Commons Transport Committee, 2019). It also identifies there is value in promoting compliance with safety rather than focusing on law breaking. This research helps us understand the extent of lawful and unlawful engagement with phones while driving. It also helps us understand different ways in-built vehicle technology facilitates engagement with phones while driving for different age groups.



**Table 1. Australian drivers' engagement in four general distracted driving behaviours**

General Distracted Driving Behaviour (in a typical week)	Percentage of Drivers 17-25 Years	Percentage of Drivers 26+ Years
Looked at screen of a smartphone held in hand while driving	46.1%	28.1%
Looked at screen of a smartphone kept in a cradle / phone holder while driving	46.2%	37.4%
Used voice commands (e.g. Siri) to control phone while driving	30.6%	25.2%
Used vehicle controls (e.g. steering wheel buttons and/or a head-up display) to control phone while driving	42%	38.3%

**Figure 1. Australian drivers' engagement in four general distracted driving behaviours**



As noted above, the research has found that 46.1% of young drivers and 28.1% of drivers aged 26+ years of age acknowledge using their phones in hand-held mode in a typical week (33.7% overall). This is still the minority. The next level of analysis compares the ways young drivers and drivers aged 26+ years interact with their phones in hand-held mode (Table 2 and Figure 2) which is arguably the most dangerous because of the high likelihood it takes drivers' eyes off the road for more than two seconds.

For both groups, the frequency with which they engage with their phones in hand-held mode increases when they are in stop-start traffic or stopped at traffic lights. This could be because they are self-regulating their behaviour based on their perceptions of risk; i.e. picking their phones up more when they think it is less risky, either from a safety perspective or from a law enforcement perspective. There is value in intervention strategies that focus on assisting drivers understand the risks of mobile phone distracted driving.

The research also highlights some important differences between the cohort groups. The most marked difference is that young drivers are far more likely to use their phones in hand-held mode in moving traffic to engage with entertainment / relaxation apps than are drivers aged 26+ years of age (74% and 40.9% respectively). This could be because of the age or the functions of the vehicles they drive with newer, more expensive vehicles (more likely to be driven by older drivers) offering a range of ways (other than holding the phone) to engage with such apps or functions than older and less expensive vehicles.

There are also observable differences in the rates of engagement with social media, with drivers aged 26+ years of age more likely to use hand-held mode to engage with social media while driving than young drivers. This reinforces that the issue of mobile phone distracted driving is not limited to younger drivers and intervention strategies should not be solely focused on young drivers.

There are similar rates of engagement with the more "traditional" uses of phones (calling, texting, messaging).

**Table 2. Australian drivers' engagement with three types of phone use while driving using hand-held mode**

Behaviour	Drivers 17-25 yrs		Drivers 26+ yrs		All Drivers	
	Use in Moving Traffic	Use in Stop-Start Traffic or at Traffic Lights	Use in Moving Traffic	Use in Stop-Start Traffic or at Traffic Lights	Use in Moving Traffic	Use in Stop-Start Traffic or at Traffic Lights
Call / Text / Message	59%	75%	53.3%	75.9%	55.7%	75.5%
Use social media	12%	24%	15.3%	30.7%	13.9%	27.8%
Use ent./relaxation apps	74%	82%	40.9%	51.8%	54.9%	64.6%

**Figure 2. Australian drivers' engagement with three types of phone use while driving using hand-held mode**

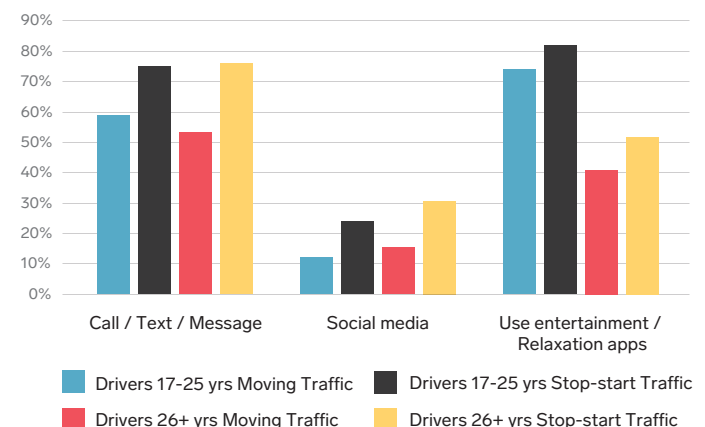


Table 3 and Figure 3 show when drivers engage with six specific distracted driving behaviours. This shows that for both young drivers and those aged 26+ years of age, there are observable increases in use when in stop-start traffic or stopped at lights compared with use in moving traffic. While both cohort groups engage in these behaviours, overall it is more pronounced for young drivers.

The existing body of knowledge about mobile phone distracted driving is largely focused on more “traditional” uses of phones (calling, texting, messaging). This research helps broaden our understanding of other ways people engage with mobile phones while driving.

For example, while still a minority of young drivers, 24.1% of those that participated in this study have participated in a chat while in stop-start traffic or when stopped at traffic lights in the preceding week; and 19.5% have used a photo messaging app in the same traffic scenario. In comparison, 8.7% and 3.2% of drivers aged 26+ years have done this.

**Table 3. Australian drivers’ engagement in six specific distracted driving behaviours**

Behaviour	Drivers 17-25 years		Drivers 26+ years	
	Use in Moving Traffic	Use in Stop-Start Traffic or at Traffic Lights	Use in Moving Traffic	Use in Stop-Start Traffic or at Traffic Lights
Created a post on social media	1.1%	2.3%	0.9%	1.7%
Scrolled through a social newsfeed	2.3%	4.6%	2.3%	6.1%
Participated in a chat (one to one or group)	10.3%	24.1%	5.5%	8.7%
Participated in a chat via video (one to one or group)	2.9%	2.9%	0.9%	1.4%
Watched videos	1.1%	4.0%	1.7%	2.6%
Used a photo messaging app	7.5%	19.5%	1.7%	3.2%

**Figure 3. Australian drivers’ engagement in six specific distracted driving behaviours**

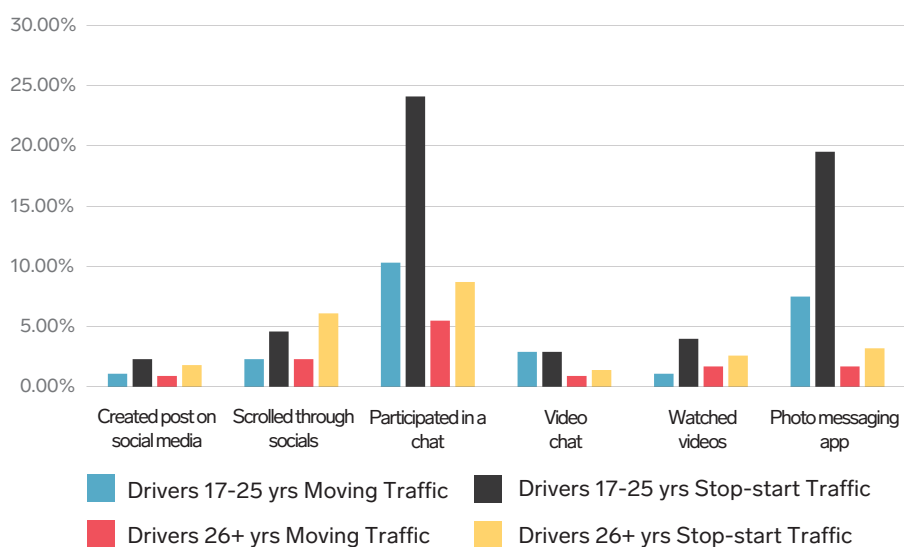




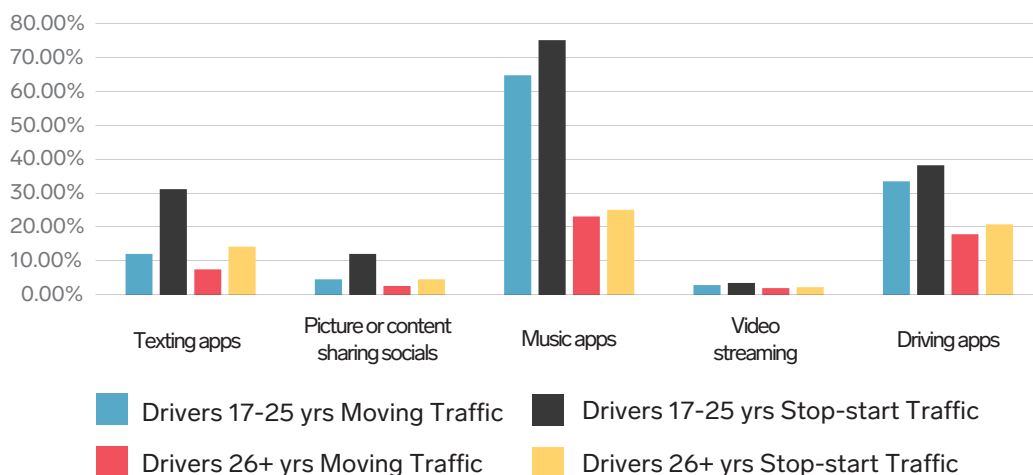
Table 4 and Figure 4 show when drivers engage with different apps on their phones while driving. Again, this shows that for both young drivers and those aged 26+ years of age, there is a marked increase in use when in stop-start traffic or stopped at lights. While both cohort groups engage in these behaviours, overall it is more pronounced for young drivers.

Music and driving apps are the most common apps used by both young drivers and those aged 26+ years of age. Video streaming apps are the least commonly used apps.

**Table 4. Australian drivers' engagement with five types of phone apps while driving**

Behaviour	Drivers 17-25 years		Drivers 26+ years	
	Use in Moving Traffic	Use in Stop-Start Traffic or at Traffic Lights	Use in Moving Traffic	Use in Stop-Start Traffic or at Traffic Lights
Texting only apps (e.g. Viber, iMessage, FB messenger, WhatsApp, and WeChat) or email apps	12.1%	31.2%	7.5%	14.2%
Picture or content sharing social media (e.g. Facebook, Instagram, Tumblr, or Snapchat)	4.6%	12.1%	2.6%	4.6%
Music apps (e.g. Apple music, Spotify, Pandora, Shazam) or podcasts or audiobooks	64.7%	75.1%	23.1%	25.1%
Video streaming (e.g. YouTube, Netflix, Stan)	2.9%	3.5%	2.0%	2.3%
Driving apps (e.g. Waze or others)	33.5%	38.2%	17.9%	20.8%

**Figure 4. Australian drivers' engagement with five types of phone apps while driving**



This research has deepened the way we can understand the prevalence of different ways mobile phones are used by drivers in contemporary Australia. Noting the research used convenience samples, it offers an important baseline against which improvements can be measured over time. The research highlights that mobile phone distracted driving is not solely an issue for young drivers. It also identifies different patterns of use that will help target specific messaging and campaigning.

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## 2.2 THEORETICAL CONTEXT

To date research into mobile phone use while driving has largely focused on “traditional” use, e.g. calling and texting, and the psychosocial factors motivating such behaviours. Several theories and related concepts have been used to explore the factors that influence smartphone use while driving, including the Theory of Planned Behaviour (TPB).

In addition to the TPB, other theories and related constructs used to study mobile phone distracted driving and that have been used in this research are:

- cognitive capture – the concept that when an individual becomes overly focussed on a secondary task (e.g., their smartphone), meaning they are not cognitively present with their primary task (e.g. driving)
- risky driving history – measured through the Behaviour of Young Novice Drivers (Transient Violations Sub-Scale)
- problematic smartphone use in general life – measured through the Mobile Phone Problem Use Scale.

The TPB and the three additional constructs are discussed in detail in the CARRS-Q reports and summarised in the final FIA report. The glossary explains the terms specifically used in this series of reports.

## 2.3 KEY INFLUENCING FACTORS

One of the goals of the research was to understand the factors that influence when, how and why Australian drivers use their smartphones while driving. Of the two driving scenarios, using a smartphone while driving a moving vehicle is considered more dangerous (Oviedo-Trespalacios, Haque, King, & Washington, 2019). This is the primary focus of this next level of analysis.

The research shows that for young drivers and drivers aged 26+ years of age, intention to use their smartphones while driving are very good predictors of their actual use.

For Australian drivers this is true for each of the three types of in-vehicle smartphone use (calling/texting/messaging, social media, and entertainment and relaxation apps). This means that at a policy and practice level, strategies need to focus on breaking the nexus between drivers’ intention to use their smartphone while driving and their actual use. To do that we need to understand what factors are the most influential (the most statistically significant) in how drivers form their intentions to use their smartphones while driving. We can then target messaging / resources around those factors.

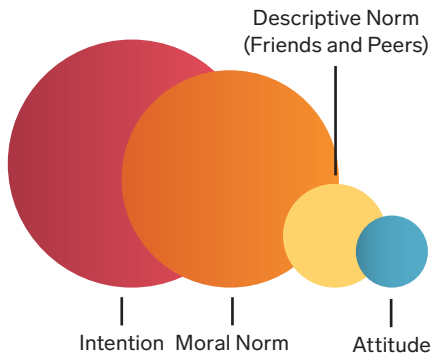
We also need to understand other factors that are also good (and statistically significant) predictors of drivers’ actual in-vehicle smartphone use. For young Australian drivers, their propensity to engage in transient driving violations is a good predictor of social media use while driving.

For maximum effect, priority should be given to interventions aimed at (1) all three types of in-vehicle smartphone use, (2) with the largest statistical significance, and (3) good indicators of actual use. These are shown in Figures 5-10.

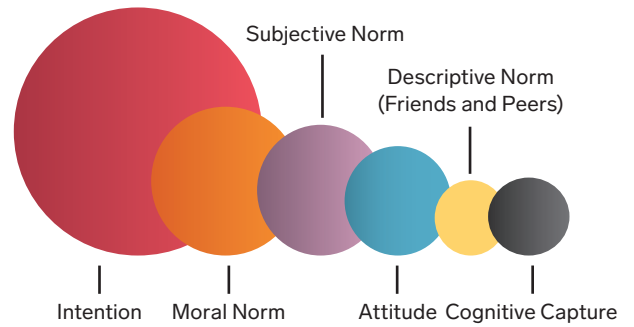
Figures 5 and 6 show that both groups’ willingness to engage with entertainment / relaxation apps (measured by intention) is the strongest predictor of their actual use. These figures also identify that while there are some common factors influencing drivers’ intentions (moral norm, attitude and descriptive norm – friends and peers), they have different levels of impact. An important difference is that drivers aged 26+ years of age are also influenced by whether not they have experienced cognitive capture in the past (being captured by their phones at the expense of the primary driving task).

These different patterns begin to show a complex interplay of influencing factors and to suggest there is no “one-size-fits-all” approach to reducing use.

**Figure 5. Most significant factors influencing young Australian drivers' use of entertainment / relaxation apps while driving**



**Figure 6. Most significant factors influencing older Australian drivers' use of entertainment / relaxation apps while driving**

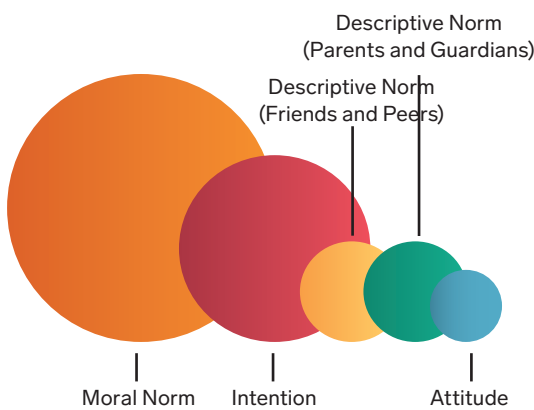


In Figures 7 and 8, a more complex picture emerges. The more “traditional” uses of phones while driving for both groups are influenced most strongly (although to different extents) by moral norm. This means it is more likely both groups will engage with their phones in this way if they don’t think it is morally or ethically wrong for them to do so. Put another way, it is less likely that people will engage with their phones while driving in this way if they can be convinced it is morally wrong for them to do so.

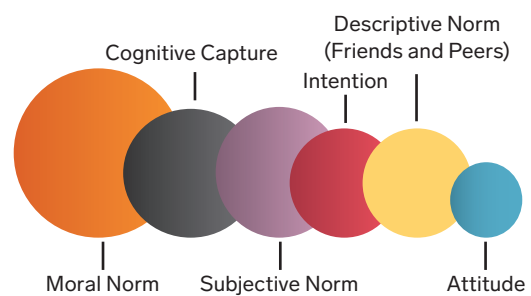
Cognitive capture (or being captured by a phone at the expense of the primary driving task in the past) emerges here as an important predictor of use for drivers aged 26+ years of age. For this group of drivers, being aware of when this has occurred in the past is an important first step to understanding their risk factors.

The influence of parents on young drivers also emerges as an important predictor of young drivers’ engagement in these more “traditional” uses of phones while driving. Young drivers are more likely to use their phones while driving in this way if they see their parents doing this.

**Figure 7. Most significant factors influencing young Australian drivers calling, texting and messaging while driving**



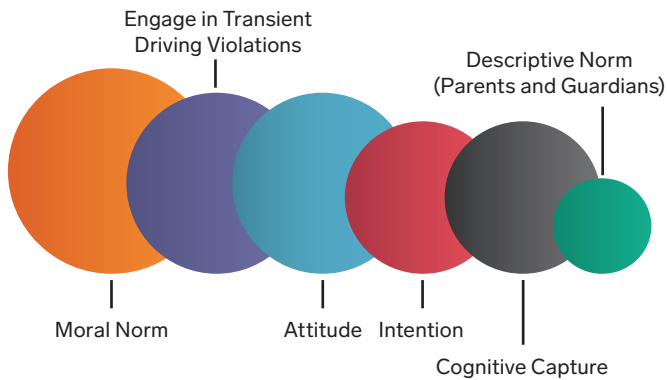
**Figure 8. Most significant factors influencing older Australian drivers calling, texting and messaging while driving**



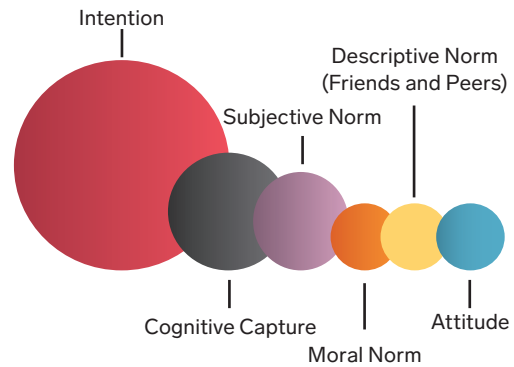
Figures 9-10 below show an increasingly complex picture emerging. For young drivers, moral norm is the most significant indicator of using social media while driving, followed closely by their propensity to engage in transient driving violations and their attitude. For drivers aged 26+ years of age, intention is the most significant factor, followed by cognitive capture.

These different patterns further reinforce that the complex interplay of factors strengthens the argument that there is no “one-size-fits-all” approach to reducing use.

**Figure 9. Most significant factors influencing young Australian drivers’ use of social media while driving**



**Figure 10. Most significant factors influencing older Australian drivers’ use of social media while driving**



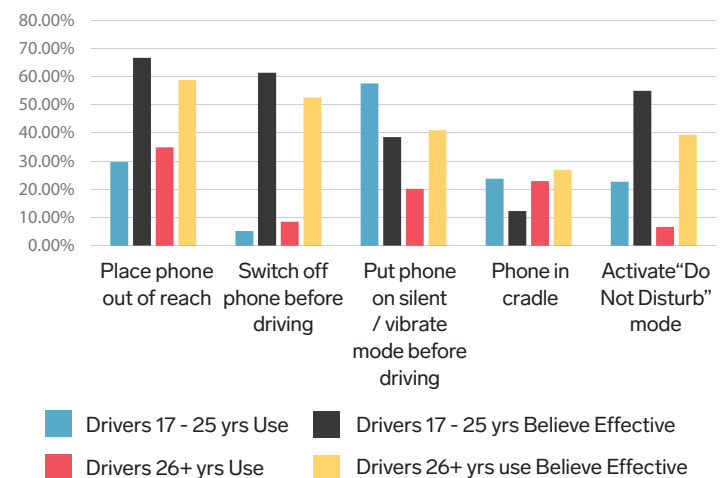
## 2.4 STRATEGIES USED TO REDUCE IN-VEHICLE SMARTPHONE USE

Encouragingly, most Australian drivers in this study (93% of young drivers, and 79% of those aged 26+ years) have tried to reduce their in-vehicle smartphone use. However, as the study shows the strategies they use are not always effective. Comparing the strategies that Australian drivers have tried the most with the strategies drivers believe are most effective shows a marked disconnect. 55.6 per cent of Australian drivers surveyed believed switching of their device was effective, but only 7.4 per cent of drivers actually use it. Not enough drivers are using the strategies they believe will be most effective.

**Table 5. Strategies most used compared with most effective strategies**

Behaviour	Drivers 17-25 years		Drivers 26+ years	
	Personally Used the Most	Believe Most Effective	Personally Used the Most	Believe Most Effective
Place phone out of reach	29.7%	66.7%	34.9%	58.8%
Switch off phone before driving	5.2%	61.4%	8.5%	52.7%
Put phone on silent / vibrate mode before driving	57.6%	38.6%	20.2%	41.0%
Phone in cradle	23.8%	12.3%	22.9%	26.9%
Activate “Do Not Disturb” mode	22.7%	55.0%	6.7%	39.4%

**Figure 11: Strategies most used compared with most effective strategies**



There are similar patterns for drivers aged 17-25 years and those aged 26+ years of age for most strategies. However, young drivers are almost three times more likely than those aged 26+ years of age to put their phone on silent and activate ‘Do Not Disturb Mode’ before driving. This opens up the space for messaging and campaigning targeting older drivers around using inbuilt functions to reduce their smartphone use. As noted above, seeing their parents or guardians using their phones while driving is a powerful factor influencing young drivers’ in-vehicle smartphone use.



### 3. REFERENCES

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