

## Turning Research into Public Education: “Don’t Trust Your Tired Self”

Parnell<sup>a</sup>, H., Fernandes<sup>a</sup>, R., Walker<sup>a</sup>, E., Suchard<sup>b</sup>, G., and Wilson<sup>b</sup>, V.

<sup>a</sup>Centre for Road Safety, Transport for NSW; <sup>b</sup>Marketing and Communications, Transport for NSW

### Abstract

Fatigue is one of the top three behavioural issues that contribute to death and injury on NSW roads. With no direct enforcement measures for fatigue available, the drive to self-awareness and self-regulation lies with public education campaigns.

Research was conducted in 2012 to understand NSW drivers’ knowledge, attitudes and behaviours in relation to fatigue and inform a new public education campaign. The results suggested fatigue was not considered as serious a road safety issue as drink driving, or to some extent speeding. Fatigue was recognised as an issue on long trips, however not on short trips. It was more closely associated with night-time driving, whereas the research indicated fatigue was also experienced during the afternoon – particularly among older drivers. Of particular concern were: drivers’ uncertainty about when their level of tiredness becomes a danger; limited pre-planning of trips; and the desire to push on, primarily among younger drivers.

The campaign aimed to address these issues by raising the significance of fatigue, and encouraging self-analysis. “*Don’t Trust Your Tired Self*” uses the behaviour change technique of ‘anchoring’ and positions fatigue in line with other more broadly recognised road safety issues to highlight its seriousness. Campaign executions present day and night, metro and rural locations to highlight that fatigue can happen on any journey, whatever time of day and no matter how long or short. Drivers are provided with campaign tools to self-assess their fatigue levels prior to driving, and learn strategies to avoid driving tired. Initial results of the campaign, including the online self-test component, are very positive.

### The need for a fatigue campaign

Driver fatigue is the second biggest contributor to the NSW road toll after speeding, having recently overtaken alcohol as a contributing behavioural factor. Preliminary NSW crash data shows that in 2013 fatigue was a contributing factor in 19% of all fatalities and 8% of injuries on NSW roads, resulting in 63 people killed and 1,742 injured<sup>i</sup>.

Research has shown that fatigue can be as dangerous as drink driving, and getting behind the wheel after 17 hours without sleep can have a similar effect on driving performance as a person with a blood alcohol concentration of 0.05<sup>ii</sup>.

Fatigue is a complex road safety issue to address because there is no objective way for Police to measure it at the roadside and evaluate if someone is too fatigued to drive. There is no direct legislative framework and no direct enforcement for light vehicle driver fatigue. Using public education to make drivers aware of the issue of fatigue and how to combat it is therefore critical in helping to reduce injuries and fatalities.

Prior to the launch of “*Don’t Trust Your Tired Self*”, campaigns to address driver fatigue included “*Wake up to the signs*” (2009) and the Dr Karl campaigns “*Microsleep*” (2001) and “*Circadian Rhythms*” (2003). In order to assist the development of a new campaign that would successfully address the issue of fatigue and be relevant to the target market, up-to-date research was necessary to assess the current landscape and thinking among drivers.

In 2012, quantitative and qualitative research was undertaken to gain an up-to-date understanding of the knowledge, attitudes and self-reported behaviours of NSW drivers in relation to fatigue<sup>iii</sup>. This consisted of an online survey of 1000 NSW drivers and eight focus groups in metro and regional locations. Previous research was also undertaken in 2001<sup>iv</sup>, 2006<sup>v</sup> and 2007<sup>vi</sup>, which were used as a basis for comparison. Detailed findings of the 2012 research were presented at the Road Safety Research, Policing and Education Conference in 2013.

The results of this research were instrumental in the development of the new campaign, and were considered at every stage to ensure the campaign messages were relevant and credible to drivers, and effectively addressed the road safety issue. This was achieved through a strong collaborative approach between the Centre for Road Safety and the Marketing and Communications team, both within TfNSW.

### Key Findings from the Research

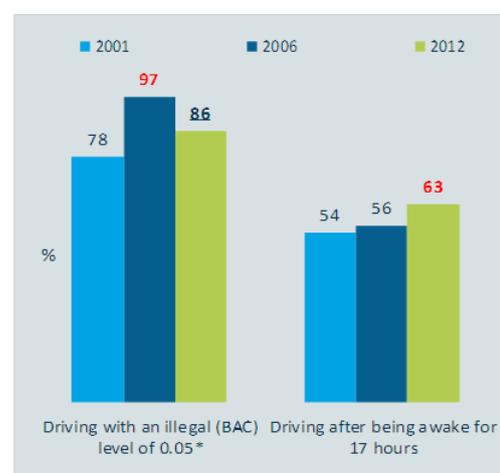
Fatigue was recognised by drivers in the focus groups as a road safety issue, however it was not seen to have the same air of seriousness surrounding it as driving under the influence of alcohol, or to some extent speeding. While the perceived seriousness of driver fatigue, and its perception as being morally wrong has increased since 2001, the 2012 research showed that in terms of its seriousness, 75% of survey respondents scored driver fatigue a 9 or 10 out of 10, compared to 86% giving drink driving a 9 or 10 out of 10. Additionally, 63% of drivers perceived driver fatigue to be morally wrong, compared to 86% for drink driving.

**Figure 1. Perceptions of behaviours in terms of seriousness and being morally wrong**

**a) Seriousness Perceptions of Driving Factors**



**b) Perceptions of Morally Wrong Behaviours**



(Base: All survey respondents (2012 n=1002). Q. There are four factors which have a major influence on death and serious injury on NSW roads. Using the slider below, where 0 is not at all serious and 10 is extremely serious; please show how serious you believe the following factors to be on death and serious injury on NSW roads (2001, 2006 & 2012))

Base: All survey respondents (2012 n=1002) Q. Which, if any, of these driving behaviours do you believe are morally wrong? (2001, 2006 & 2012) \* NOTE: A BAC of 0.06 was measured in previous years.

The qualitative research revealed fatigue was mainly considered an issue on long trips, however was not acknowledged as a problem for short trips. Despite this, around a third of survey respondents had experienced driver fatigue on both long (35%) and short trips (34%), particularly males aged 30-49 years (48% on long trips and 42% on short trips).

The research also suggested that signs of fatigue might be dismissed during the day-time. The afternoon (12noon-4pm) was a peak time for experiencing driver fatigue on long (33%) and short (24%) trips. In particular, older drivers aged 50 years or over tended to experience fatigue more in

the afternoon (38%). While this may be due to the increased likelihood of driving during this time compared to during darkness, NSW crash data shows that older drivers are having more fatigue related crashes at this time of day compared to crashes involving other factors<sup>vii</sup>. While drivers are aware of circadian rhythm lows at night and the risk of fatigue at this time, the group discussions revealed they are less aware of circadian lows during the afternoon and as a result pay less attention to early warning signs at this time. Certainly, drivers tended to associate microsleeps with night-time driving.

While drivers are aware of fatigue, they noted in the group discussions that they were unsure how tired is too tired and when their tiredness is at a dangerous level for driving. Indeed, a literature review of driver fatigue found that although drivers can tell their fatigue or drowsiness is increasing, there is doubt if they can judge when they should stop driving – they cannot always accurately assess their tiredness<sup>viii</sup>. This issue is exacerbated due to the ability to judge tiredness declining as fatigue sets in.

The research also revealed that drivers do not always consider prior activities or sleep before driving. The perceived danger of ‘beginning a trip after working all day’ dropped in 2012 with 76% considering it to be dangerous compared to 91% in 2001. Younger males aged 17-29 were even less likely to perceive this behaviour as dangerous (49%).

Young males were also less likely to prioritise sleep before driving, with fewer agreeing with the statement ‘I’d be prepared to miss out on doing something I like in order to get a good night’s sleep’ (55% compared to 74% total). Males both 17-29 and 30-49 years had strong agreement with the statements ‘my driving is not affected by missing a few hours sleep the night before’ (34% and 30% respectively) and ‘being tired doesn’t change my ability to drive’ (26% amongst 17-29 year old males). This suggested an inflated view among young males of their ability to drive tired, and a lack of preparation for a journey.

Drivers also suggested in the focus groups they want to ‘push on’ when tired, particularly when close to their destination. This was especially so among younger male drivers. They may need to meet deadlines or adhere to commitments; they do not want to ‘waste’ time, and strive to achieve their estimated arrival time. The survey revealed that if drivers are close to reaching their destination, the main reasons for stopping would be a microsleep (79% would stop if they experienced this) or if they almost crashed (71%). Many would not stop if they experienced signs of fatigue, with just 48% stating they would stop if they had poor concentration and 27% sore/tired eyes. It is important that drivers are encouraged to stop driving *before* they have a microsleep, as by this point it may be too late.

## **Campaign Development**

### ***Campaign Objectives***

The research findings led to three overarching objectives to address the issue of light vehicle driver fatigue. The first objective was to create awareness of the issue and its impact on driving performance, convincing drivers of the seriousness of driving fatigued, the importance of taking regular breaks and responding early to fatigue. Secondly, the campaign aimed to encourage drivers to reconsider the risks of fatigue before driving and to evaluate prior sleep or activities and time of day that may influence their level of tiredness when driving. The third objective was to change drivers’ attitudes to stopping for a break, particularly when close to their destination, highlighting the benefits of napping and swapping drivers where possible.

The campaign was subsequently designed around three communication tasks to: raise the significance of driver fatigue as a problem; encourage self-analysis; and make driving fatigued

socially unacceptable. While the first two of these tasks were considered appropriate for the initial phase of the campaign, it was acknowledged that achieving social unacceptability takes time and awareness and acceptance of an issue is firstly required. As such the third objective, while addressed to some extent in the current campaign, will be a greater focus for later stages of the campaign, which will also focus more heavily on behaviour change.

### ***Target groups***

The core target group identified for the campaign was young males 17-49 years as this age group displays the most risky attitudes and behaviours in relation to fatigue, such as being less likely to perceive driver fatigue as serious and are likely to 'push on' when driving tired. Within this target group there was a skew towards those 17-29 years as they are over-represented in fatigue related crashes. Males aged 17-29 years account for 27% of all fatigued drivers involved in crashes and 23% of all fatigued drivers involved in fatal crashes, however they account for just 11% of licence holders in NSW<sup>ix</sup>.

The secondary target group was males aged 50 and over as, although this group generally displays safer attitudes and behaviours in relation to fatigue, they are involved in a large number of fatal fatigue-related crashes. They also tend to experience, and dismiss, fatigue in the afternoon - a time when they are also having fatigue related crashes.

Females were also targeted for the role they can play as an influencer over the behaviour of other drivers.

Insights provided by a specialised multicultural agency uncovered that Culturally and Linguistically Diverse (CALD) audiences have a different relationship with fatigue and tiredness. In these groups tiredness is seen to be a sign of not coping, rather than as a badge of honour. Key community influencers were identified as having the greatest potential to break through this stereotype. Messages were tailored for CALD audiences via language specific television creative and radio executions delivered by recognised community influencers and media personalities as part of this approach.

### ***Increasing Awareness of the Dangers of Fatigue***

While the research showed the perceived seriousness of driving fatigued has increased over recent years it is still not seen to equate, in terms of gravity, with other road safety issues such as drink driving, and to some extent speeding. This is despite the contribution of fatigue to the NSW road toll having overtaken alcohol, and research showing that fatigue can have similar effects on driving performance as alcohol. There is a gap between the perception of fatigue and the reality of the dangers associated with driving when fatigued.

Based on this research a strategic platform was developed that helped to inform an overall campaign idea which would have the ability to resonate across the wide and disparate target audiences. The strategic platform identified the need to present fatigue in a new way, which reflects the broader societal context related to fatigue as an issue. In today's society generally, there is a need to 'push on' rather than stop, such as pushing on through a cold or when exercising. The need to 'push on' is deeply ingrained as is the idea that there is little or no choice but to push on. For many, tiredness is worn as a badge of honour day to day and is seen as the new normal. Whereas the response to people who intend on driving when drunk is one of intervention and anger, for a driver who is about to start driving when tired the response is one of sympathy and therefore drivers are less likely to reconsider their actions.

In order to address this gap between perception and reality, and remove the ‘normality’ of pushing on, a creative agency worked in collaboration with a specialist behaviour change partner to develop a campaign that reframes driver fatigue as dangerous by anchoring it alongside two established serious road safety behavioural issues – drink driving and speeding, to deliver a salient message as shown in Figure 2. The campaign uses the “*Don’t Trust Your Tired Self*” messaging to place the responsibility for the decision to drive tired in the audience’s hands. It reminds them to be aware of the signs of fatigue, seeding doubt where currently there is none, and empowering each person to do something about it. The message “One of the three big killers on NSW roads” was also used to highlight the danger of fatigue and its contribution to the road toll.

**Figure 2. Campaign Creative – regional version**



## Key Campaign Shifts

The research revealed drivers consider fatigue to be an issue predominantly for long journeys, at night and have been informed to watch for the early warning signs and take regular breaks when driving. This campaign aimed to expand drivers’ perceptions of fatigue to make it an everyday consideration when driving on any trip and to consider how tired they might be before they even get into the car. As such, “*Don’t Trust Your Tired Self*” made three key shifts compared to previous messaging. Each of these is discussed below.

### ***From ‘Fatigue’ to ‘Tired’***

A key shift of the campaign was the change in language used to convey the message from ‘Fatigued’ to ‘Tired’. Concept testing of the initial creative revealed that the term ‘fatigue’ does not resonate with all drivers as it is not well understood, while ‘tired’ was clearly understood and recognised by all groups. Drivers define fatigue as both mental and physical exhaustion whereas tired is defined as differing intensities of mental tiredness and the symptoms of fatigue are articulated when defining ‘tired’. Drivers are more likely to dissociate with a message that uses the word ‘fatigue’ because they dismiss the fact that they are ever that tired – they are more likely to associate fatigue as an issue for heavy vehicle drivers and with long distance driving. On the other hand, ‘tired’ is described as a more inclusive term associated with all types of road users and uses including car drivers, short trips and with metropolitan driving.

As such, all campaign creative used the term ‘tired’ in the main message to enable drivers to connect with the message and realise that it is everyday tiredness that kills, not just extreme fatigue. The term ‘fatigue’ remained when referencing statistical data, consistent with its use within official NSW crash data, such as – “Fatigue. One of the big three killers on NSW roads”.

This shift in terminology was central to the campaign idea and to reframing the significance of the issue and the attached risk. A message about driving when tired, as opposed to fatigued, was considered more likely to be seen as relevant and credible to drivers, and subsequently more likely to result in attitude and/or behaviour change.

### ***Expanding the Perception beyond Long Trips at Night***

The research highlighted that the issue of fatigue is only really considered by drivers when taking long journeys, as it does not really enter their thoughts when taking a short trip. Drivers were aware of the need to take regular breaks when driving, with previous messaging to ‘stop every two hours’ clear in their minds. Indeed, campaigns to address driver fatigue over the past twenty years have typically focussed solely on the effect of fatigue during the task of driving, and typically long trips, with messaging has evolved over time: from highlighting fatigue as a road safety issue (“*Kombi*”), to highlighting ways to manage fatigue on a long trip (“*Deadly boring*”), to highlighting the reasons for fatigue, (“*Dr Karl – Microsleep & Circadian Rhythms*”), and finally to promoting ways of identifying fatigue (“*Wake up to the signs*”).

These campaigns have alerted drivers to the signs of fatigue during the task of driving, and the importance of stopping every two hours. However, this awareness does not change the way people feel about starting a journey tired, and does not acknowledge that as drivers tire they become less able to monitor and assess their own levels of fatigue, which may require more frequent breaks than every two hours, or indeed stopping the journey.

A key aim of the campaign was to help drivers understand that fatigue is not simply an issue for long journeys or those at night, but every time they get behind the wheel, whether for a short trip or long trip, and no matter what time of day. While there is a greater risk of fatigue when driving at night, as the body is programmed to sleep, being tired can always be a factor when driving. If a person is tired before they start their journey, their driving may be impacted by the negative effects of fatigue nearer the start of their journey, and therefore affect even a short trip.

It was considered necessary to extend the messages of previous campaigns and inform drivers that fatigue is a compounding issue which can occur on any drive no matter how long or short, or what time of day, so self-assessment both prior to, and during, driving is key to risk mitigation.

As such, the campaign depicted both metro and regional locations, and both night-time and daylight hours (see Figure 3) as well as building on successful past campaign messages e.g. “Stop. Revive. Survive”. This was carried throughout the campaign in the television commercial, print and online creatives.

***Figure 3. Campaign Creatives – regional day, metro night and ‘Stop. Revive. Survive’***



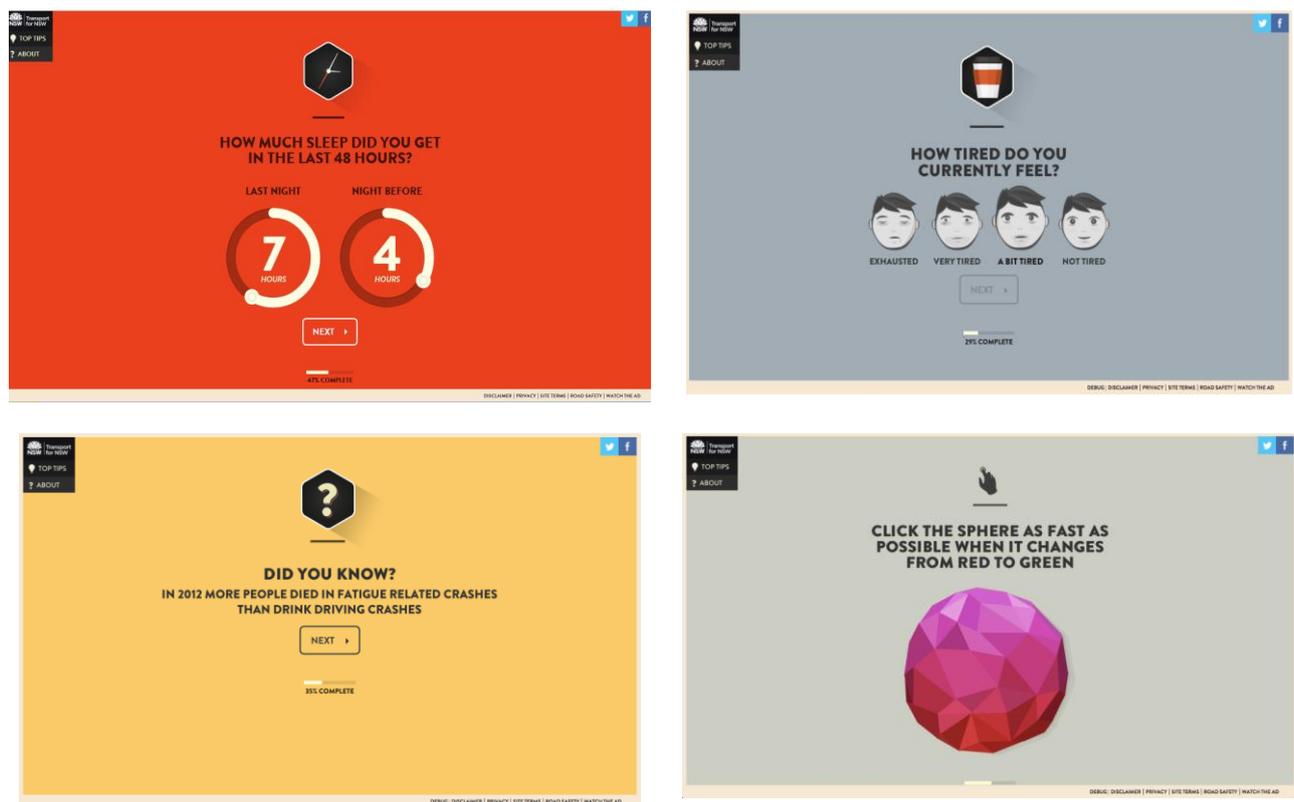
### ***Encouraging Self-Assessment Before driving as well as During***

As mentioned above, a driver may be tired before they even begin their journey. The research found that alarmingly, drivers are not always considering prior sleep or activities before driving, and the impact of these on their level of tiredness. Drivers are also unable to accurately assess their level of fatigue and are unsure how tired is too tired when driving.

To help initiate self-assessment before driving, and challenge drivers' perceptions of tiredness levels, the campaign directed people to the website [testyourtiredself.com.au](http://testyourtiredself.com.au). This is an engaging, interactive test to help drivers understand how tired they might be before getting behind the wheel, and learn strategies to avoid driving tired.

The test asks a series of questions about the driver's fatigue levels, such as what time they woke up that morning, how much sleep they've had in the last two nights, how tired they currently feel, and what they've been doing in the last few hours. The test also includes memory and reaction time tests to engage drivers and make it enjoyable, as well as a series of 'did you know' statistics about fatigue-related crashes (see Figure 4). The output gives drivers an indication of how they performed at the reaction tests and how tired they currently appear, and provides a number of tailored strategies to help drivers avoid driving tired. These include tailored strategies and messages for identified key at risk groups including older drivers driving in the afternoon, and for younger drivers driving at night, as well as tips for at risk groups including shift workers, commercial vehicle drivers, tradespeople and students.

*Figure 4. Extracts from testyourtiredself.com.au*



## Success of the Campaign

The campaign launched prior to the Christmas school holidays in December 2013. This is a key time, due to the increase in volume of traffic on the roads during holiday periods, drivers setting out on longer journeys than they usually would and the general busyness, and potential for tiredness, at that time of year. Early results of the campaign after the first wave of activity were positive. Online surveys conducted before and after the campaign launched revealed that those who had seen the

campaign had more positive fatigue-related attitudes than those who had not seen the campaign. Some of the key findings include:

- 78% of respondents and 74% of 17-29 year old males recalled at least one part of the campaign.
- 79% of respondents in the post-wave agreed they assess how tired they are before driving on a long drive, compared to 74% in the pre-wave.
- 92% of respondents in the post-wave said they would be very likely or quite likely to encourage another driver to take a break if they said they were tired, compared to 89% in the pre-wave.
- 71% of males 17-29 in the post-wave personally think that it is important to take a break from driving as soon as they start to feel tired compared to 59% in the pre-wave.
- Males 17-29 years were also more likely in the post-wave to avoid driving tired by taking a nap before driving (34% vs. 22% pre-wave) and have a good night's sleep before the drive (61% vs. 47% pre-wave)
- 78% of 17-29 year old males in the post-wave said they would be very likely or quite likely to offer to swap and drive if the driver said they were feeling tired, compared to 66% in the pre-wave.

Analysis of results for respondents that had seen the campaign against those that had not seen can help to provide an understanding of the level of influence of the campaign on the key outcomes measures. Some of the key findings from this analysis include:

- 93% of those who saw the campaign think it is important to take a break from driving as soon as you experience the early warning signs, compared to 86% of those who did not see the campaign.
- 54% of those who saw the campaign say they would be likely to think about whether they might be too tired to drive if they were feeling tired right before starting a short drive, and 76% before a long drive. This is compared to 46% and 69% of those who did not see the campaign respectively.
- Amongst those who saw the campaign, 92% think it is important to assess whether they are too tired to drive, either before they start driving or while they are driving, compared to 85% of those who did not see the campaign.
- 91% of those who saw the campaign think it is important to plan drives so you do not have to drive while tired, compared to 86% of those did not see the campaign.

In addition, the response to [testyourtiredself.com.au](http://testyourtiredself.com.au) was extremely positive and exceeded forecasts. As at July 2014 there have been over 132,000 visitors to the site, with over 111, 300 unique visitors and an 86% completion rate for all users who start the test, resulting in more than 48,500 tests completed. Interestingly, of those users who had selected that they had been awake for over 17 hours, less than half (44%) indicated that they felt very tired, or a bit tired, despite this level of wakefulness placing them at an extreme level of risk. This reiterates that people are unaware of their own levels of tiredness, and need tools like this test to help them understand how tired they might be, and to provide them with strategies to help them when results show they are too tired to drive. Such self-assessment is key to avoiding driving tired.

## Campaign Evolution

As outlined earlier, the overall campaign “*Don’t Trust Your Tired Self*” was designed around three communication tasks, with the third being to make driving fatigued socially unacceptable. As noted, this cannot be achieved solely by one message, but requires a range of different but related messages over time. Future activity planned for this campaign will therefore build on increased awareness of the seriousness of fatigue, encouraging greater self-assessment through more tailored and targeted messaging to key risk audiences to further alter drivers’ attitudes towards the issue. It will also increase social unacceptability of driving tired and ultimately lead to widespread behaviour change. Continuous campaign tracking, which can be examined week by week, or month by month, will allow measurement of awareness of the campaign and the underlying issue to inform future campaign evolution.

## Conclusion

The main factor behind the success of this campaign was that it was grounded firmly in strategic thinking directly informed by research on fatigue. Careful analysis revealed core insights about drivers’ attitudes and behaviours, and what would be necessary to help prevent drivers from driving tired. These research findings were carried through to the strategic platform and creative concepts to ensure a message that is powerful as well as highly relevant and credible to drivers. While widespread behaviour change takes time and is not achieved by one message alone, Transport for NSW is confident that “*Don’t Trust Your Tired Self*” is another step in the right direction, bringing a focus back to the seriousness of fatigue, and informing drivers that tiredness is an everyday issue that can affect performance on *any* journey, so self-assessment both prior to and during every drive is essential.

## References

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- <sup>i</sup> NSW crash data for 2013 preliminary data.
- <sup>ii</sup> Williamson, A., Feyer, A., Friswell, A., and Finlay-Brown, S. (2000). Development of Measures of Fatigue: Using an Alcohol Comparison to Validate the Effects of Fatigue on Performance
- <sup>iii</sup> Woolcott Research (2012). *Driver Fatigue Quantitative and Qualitative Study*. Unpublished report prepared for the Centre for Road Safety, Transport for NSW.
- <sup>iv</sup> Woolcott Research (2001). *An Evaluation of Motorists’ Attitudes, Beliefs and Behaviours Towards Fatigue*. Unpublished report prepared for the Roads and Traffic Authority.
- <sup>v</sup> Ipsos (2006). *Driver Fatigue Survey Report: Knowledge, Attitudes and Behaviours of NSW Drivers*. Unpublished report prepared for the Roads and Traffic Authority.
- <sup>vi</sup> Lily Loo and Associates (2007). *An Exploratory Qualitative Research Study On Fatigue*. Unpublished report prepared for the Roads and Traffic Authority.
- <sup>vii</sup> NSW crash data for the five year period 2007-2011.
- <sup>viii</sup> Williamson, A & Friswell, R (2012). *Addressing Fatigue among light vehicle drivers: An overview of current knowledge*. Unpublished report prepared for the Centre for Road Safety, Transport for NSW.
- <sup>ix</sup> NSW crash data 2008-2012 and Roads and Maritime Services Licence data.