

# **Fatalities and Accidents on Rural Main Roads (F.A.R.M) Driver Fatigue over Short Distances and Transitional Driving**

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## **Biography**

Janet Hogge has worked as a road safety program coordinator for Hawkesbury City Council for the past 4 and a half years. Prior to moving into local government Janet worked for the Wentworth Area Health Service as a health promotion officer. During her time with the health service Janet initially worked in the area of strategic and business planning before moving into injury prevention.

Angela Vernicos is Employed as Road Safety Officer by Baulkham Hills Shire Council from 2000 until the present. Prior to this Angela worked in Baulkham Hills Council's Human Services division as a Community Projects Officer and Children's Services Coordinator from 1996 until 2000.

Glenn Sherlock manages the Blue Mountains City Councils Road Safety Program, a position he has held for the past 5 years. He sees the role of the Road Safety Program Coordinator/Officer as being crucial to the reduction of road trauma within the community. This program is another example of how a local based research project can be developed and implemented with its outcomes providing a real benefit for the community.

## **Abstract**

In 2000, Hawkesbury, Penrith, Baulkham Hills and Blue Mountains Councils commissioned research to be undertaken to investigate driver attitudes towards short distance driver fatigue and their understanding of transitional driving (urban to rural and vice versa).

The research fell into 2 categories: a survey of 320 people across 4 LGA's and an analysis of RTA crash data for a 5 year period across 4 LGA's.

Over 80% of drivers involved in fatigue related crashes lived within the LGA. This may indicate that they are having their crashes on short trips such as travelling to and from work, picking the children up from school and other day to day activities that only require a short drive.

A significant number of these drivers when surveyed, admitted that they were unsure of what short distance driver fatigue meant and that they did not always adjust their driving to changing environments.

This provided a significant challenge in terms of interventions to address these combined issues.

A range of resources have been developed to raise awareness of both driving while tired and being aware of moving between rural and urban road environments.

These include road side signs, a kit for Risk/OH&S Managers, posters and a pamphlet.

The kits have been distributed to organisations within the 5 LGAs who employ large numbers of staff. Councils have been included in the distribution process.

Road side signage has been installed at locations which were identified as part of the crash data analysis as being high risk in relation to fatigue related crashes. Each of the signs alerts drivers to the fact that they are entering a rural or urban environment and warns them to stay alert.

The signs have been located so as to provide a recurring reminder as they move between each of the LGAs.

The project builds directly onto our research and is putting into practice the recommendations identified in that research. The program resonates the conference theme 'From research to action'.

The project paper showcases innovation in road safety program delivery in so much as it builds on research not previously undertaken at a local level.

The project has the potential to be implemented at other locations with similar road safety issues which makes it of interest to on the ground road safety practitioners.

## **1. THE RESEARCH**

A literature review was undertaken for Stage 1 of the research. This indicated that there was a lack of community awareness and knowledge of short distance driver fatigue. The findings also supported the idea that drivers experience a change in awareness levels when undertaking transitional driving but they were not often aware of its affect on their driving. Some drivers also said they were unaware that they had actually moved from one road environment to another.

Stage 2 stated that the following general summary is relevant to the four council areas studied in the report.

- Fatigue contributes to approximately 8% of all accidents in these areas. The contribution of fatigue to fatal accidents is considerably higher at 13%.
- Over 80% of the fatigue accidents in the area are short distance. Of the short distance fatigue accidents approximately 75% of the controllers live in the local government area.
- 86% of the controllers in short distance, fatigue related accidents live in the local government area.
- Short distance, fatigue related accidents are more likely to occur on Saturdays and Sundays than any other days of the week.
- Short distance, fatigue related accidents are more likely to occur on Public Holidays, Christmas, Easter and Weekends.
- The risk of having a fatigue related, short distance accident is greater at night, or between 3pm and 6pm.
- As age increases the risk of fatigue related accidents decreases. (People aged 25 and under are involved in almost half of the short distance fatigue accidents.)
- Males are the controllers in approximately three times as many short distance fatigue related crashes as women.
- In each council area there are a number of fatigue problem areas, where short distance, fatigue related accidents commonly occur.
- Road User Movement of short distance fatigue related accidents are predictable with controllers most commonly veering of the carriageway to the left into an object.
- Short distance fatigued related accidents most commonly occur in 60km/hr zones.
- Most accidents occur on a day that is fine. However the risk of a fatigue related accident in these areas is greater in the rain.
- Speeding is involved in approximately 14% of short distance fatigue accidents.

- More than one quarter of the vehicles involved in short distance fatigue related accidents have more than one person in the car.
- 69% of the accidents involve only one unit.
- In over 80% of the short distance fatigue accidents, the controller's vehicle is a car.

## 2. RECOMMENDATIONS

There were a number of recommendations arising out of the research. Recommendations arising from Stage 1 (survey) included:

- Defining short distance driver fatigue
- Make clear the differences between urban and rural roads
- Explain the dangers of driver fatigue over short distances
- Differentiate between driver fatigue over short and long distances.
- Emphasise the need to be adequately rested even for short journeys
- Raise awareness of changes in state of concentration when transitional driving takes place
- Develop signage to assist drivers in understanding the need for appropriate driving behaviours on specific types of roads.
- Use signage to alert drivers to the fact that they are moving between rural and urban road environments.
- Offer employees alternatives to driving on the journey to, and more importantly, from work
- Incorporate flexible hours where possible
- Introduce rest areas in the workplace.
- Increase use of strategically placed engineering treatments
- Increase driver knowledge of effects of circulated air and CO2 retention.

Recommendations from Stage 2 (crash data analysis) included:

- Develop educational programs to implement in local schools and workplaces focusing on short distance fatigue in the area. (Or where they already exists, update them in light of the relevant, local statistics provided in this report.)
- Driver workshops for new drivers.
- Information booklets
- Signs for workplaces
- Utilise radio stations and community newspapers to circulate the short distance fatigue message to the wider community. Possibly develop a fatigue warning to drivers to be played on radio during higher risk periods, such as between 3pm and 6pm daily, weekends and Public Holidays.
- Ensure to target a younger audience, in particular males.
- Target passengers in the cars not just the drivers. In more than one quarter of the accidents there was at least one passenger in the car. Make passengers aware that their lives are in the hands of the driver, they too have a responsibility to be conscious of the driver's alertness.
- Erect Boards and Signs along the high-risk roads identified in this report.
- Target the mentioned high-risk roads for engineering improvements.
- Look into the possibility of having a community fatigue week focusing on the local fatigue dangers.

## 3. FUNDING

A number of the recommendations were selected for implementation. Funding was applied for from the IPWEA to develop: road side signs, a kit for OH&S/Risk Managers, pens and post it notes, car tidy bags, and a poster. A pamphlet was also produced with funding applied for through a separate process by Baulkham Hills Shire Council.

A total of \$10,000 was provided by the IPWEA and in addition each of the five Councils in the project provided \$2000.

#### **4. RESOURCE DEVELOPMENT AND IMPLEMENTATION OF RECOMMENDATIONS**

The five Councils formed a working group to collectively develop resources. The recommendations of the research informed the messages and look of the resources. The slogan STAY ALERT was adopted as the main message of the program and then linked to other relevant messages that were directly related to the intent of the project. For example, the message on the pens, post it notes and car tidy bags read *STAY ALERT Adjust Your Driving To Suit Conditions*.

Road side signage was seen as a way of alerting drivers to the fact that they were moving between rural and urban environments. The working group liaised closely with the RTA to develop signs that incorporated the essence of the messages in a simple yet meaningful way. This was a difficult task, however signs for installation at points entering either rural or urban environments were finally developed. These signs were installed at or near locations identified in the research as being high risk.

The kit developed for OH&S/Risk Managers contained a series of fact sheets incorporating most of the messages recommended in the research. Copies of the poster and the pamphlet were also included as well as a pen and post it notes. A1 posters were distributed with the kit.

Overall a significant number of recommendations were met through the development of resources that incorporated messages relevant to the research results.

#### **5. EVALUATION RESULTS**

*To date, the only aspect of the project that has been formally evaluated are the road side signs.*

*In June 2003 in person surveying was carried out in the five local government areas of Blue Mountains, Blacktown, Baulkham Hills, Hawkesbury and Penrith to determine the response of the community to these roadside signs and also to evaluate their success in alerting drivers to changing road conditions. 100 people were interviewed from a range of age groups from 16 years to 60+ and both male and female.*

#### **6. CONCLUSIONS**

*The signs are effective in triggering driver awareness of changing road conditions.*

##### **6.1 Recommendations resulting from survey results**

*The sign locations should be evaluated with the intention of increasing the number of signs used.*

##### **6.2 Survey Results - Unprompted awareness of the roadside signage**

*The first questions in the survey were intended to determine if drivers had seen the signs. The awareness of the Stay Alert road signs showed that there is a good recognition of road safety campaigns and projects in general in each community with on average 68% of respondents able to recall many statewide, regional and local road safety projects including Dr Karl, Stop, Revive, Survive; Go 40 For me and Operation Westsafe.*

75% of respondents could recall seeing or hearing messages that advised them to Stay Alert when driving. Of this group many could also correctly interpret the messages given with their responses being:

- Tiredness on long journeys                      Driver fatigue                      Be Alert
- Drive to the road conditions                      Taking a break                      Take care
- Built up areas    Changing road zones
- Slow down

### 6.3 Prompted awareness of road side signage

When respondents were shown a picture of the Stay Alert road signs on average 45% of respondents across the 5 LGAs could recall seeing the signs. Interestingly there was some difference between the LGAs with Blacktown and Baulkham Hills having a 70% and 60% recall of the signage while Penrith had 45%. This obviously relates to where the surveying was done as the signs are only located in 2 areas in each LGA so if those surveyed did not use those roads they would not have had the opportunity to see them.

When shown a picture of the Stay Alert road signs and asked what they thought the signs meant the responses included:

- Stay alert when driving in this area                      Adjust the way I drive
- Take care on rural roads    Changing environments
- Be alert when driving    Slow down
- Stay awake    Adjust speed to suit the zone
- Change in road conditions

This illustrates that the signage is understood by the majority of respondents which is a pleasing response. Most respondents thought that the blue, red and white colour scheme on the signs was bright and stood out effectively in the road environment

Over 70% of respondents did say that the signs made them think about their driving and whether it needs to change. This result strongly suggests the particular signs used in this project were successful in triggering the desired response in drivers. That is, they need to think more carefully about the way they drive in each road environment.

Suggested improvements to the signage included:

- Larger signs    Add the speed to the sign
- More promotion    Clearer message
- More signs    Larger print
- Bigger and brighter signs

Utilising these results further locations for the installation of these signs will be investigated and the relocation of the signs later in the year with further assessments of their impact on raising awareness in the community.

## 7. CONCLUSIONS

Based on anecdotal evidence and the formal evaluation of the road side signs, this project is proving to be very successful in implementing the recommendations of the original research. The messages of the project are reaching significant numbers of drivers across five LGAs which, given the demographics of these areas, runs into the hundreds of thousands.

The fact that the LGAs each share rural and urban roads provides the project with a continuity that can only be achieved when a project is developed and implemented across a wide area such as ours.

The development of the OH&S/Risk Managers kit provides the project with a high level of sustainability because the fact sheets can be easily reproduced for distribution to staff.

## **8. FUTURE DIRECTIONS**

Distribution of the kits is ongoing. Each of the LGAs involved distributed their kits to a range of organisations and are at varying stages of this process. Some have targeted organisations that others have yet to target. Feedback indicates that the kits have been well received. Most of the Road Safety Coordinators are now working more closely with their OH&S/Risk Managers to distribute resources and highlight the issue of driver fatigue, short distance trips and transitional driving to Council staff.

### **Acknowledgements**

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### **Key Words**

Fatigue, short trips, urban, rural.