

LEVEL CROSSING AWARENESS AND ENFORCEMENT CAMPAIGN

Snr Sgt Michael Timms¹

Timm1mic@police.nsw.gov.au

1. Abstract

During February and March 2011, police and transport agencies organised and conducted the first Level Crossing Awareness and Enforcement Campaign which targeted selected level crossings in southern New South Wales.

The mission of this first-of-its-kind campaign was to raise public awareness of level crossing safety through a localised education and media strategy supported by the tasking and deployment of additional Police resources to enforce road rules. Vehicle observations conducted pre and post-campaign suggest that the efforts were successful in reducing the queuing of vehicles over railway tracks and penalty notice data provided considerable information which can be used to better target road safety and level crossing education strategies.

The Level Crossing Strategy Council subsequently approved the continuation and expansion of the Level Crossing Awareness and Enforcement Campaign which for a modest cost delivered three campaigns throughout country New South Wales during 2011-12. Consideration is being given to the continuation of the campaign in 2012-13 with a view to targeting other road user behaviours such as disobeying lights/signs.

The campaign has forged new partnerships and presented further opportunities to target high risk drivers and prevent level crossing crashes.

Key Words: Level Crossings, Enforcement, Education, Awareness

2. Introduction

New South Wales has over 3,600 railway level crossings, with 38% of those on public roads. The 2010-2011 Annual Report from the Level Crossing Strategy Council indicates that “of the 1,364 public road level crossings in NSW, 375 have active traffic controls; 185 have flashing lights and bells; and 190 have flashing lights, bells and booms. Traffic controls on other crossings are either “give-way” or “stop” signs.”

Unlike speeding and alcohol related road trauma which receives regular focus and attention from road safety practitioners and the media, level crossing crashes seem to only receive coverage after they have occurred. The Level Crossing Awareness and Enforcement Campaign addresses the issues of traffic queuing over railway tracks and other level crossing safety issues through a cost-effective, multi-agency response.

¹ Traffic and Highway Patrol Command, New South Wales Police Force, 11 Liberty Road Huntingwood NSW 2148

Level crossings attracting queuing behaviours are identified and targeted with local media campaigns involving conventional and social media and Variable Message Signs on site. The awareness is supported by a dedicated highly visible police presence at the target locations serving to further encourage compliance as well as detecting motorists who ignore their own safety.

The effectiveness of the Level Crossing Awareness and Enforcement Campaign has been independently measured and shown to change behaviour, all at a reasonable cost.

3. Management and enforcement of level crossings in NSW

A range of government and industry organisations have a stake in the management of level crossings.

Level Crossings in New South Wales

New South Wales rail agencies and roads authorities are responsible for level crossing safety. Safety regulatory oversight is provided by the Independent Transport Safety Regulator (ITSR) for railway operations/infrastructure and the road/rail interface. Enforcement of road user behaviours is undertaken by the NSW Police Force.

Level Crossing Strategy Council (LCSC)

The Level Crossing Strategy Council (LCSC) is a NSW interagency forum which promotes coordination between agencies regarding level crossing safety. It is made up of senior executive level representation from the:

- *Department of Transport (Chair)*
- *Roads and Traffic Authority (RTA)*²
- *Country Rail Infrastructure Authority (CRIA);*
- *RailCorp;*
- *Australian Rail Track Corporation (ARTC);*
- *Independent Transport Safety Regulator (ITSR);*
- *NSW Police Force; and*
- *Local Government and Shires Associations of NSW (LGSA)*

http://www.transport.nsw.gov.au/sites/default/files/b2b/levelcrossings/LCSC_Yearly_Report_2010-11.pdf Page 6

² On 1 November 2012, the RTA was abolished by legislation and replaced by *Transport for New South Wales* (TfNSW), responsible for areas including policy and regulation, and *Road and Maritime Services* (RMS), responsible for other areas including road infrastructure.

<http://www.transport.nsw.gov.au/sites/default/files/b2b/releases/RMS-starts-today-1-11-11.pdf>

The Sydney metropolitan area has a handful of level crossings spread throughout the *CityRail* network. Whilst this is opportune in terms of reducing the risks of level crossing crashes posed to road and rail users, it does mean that road users who will typically encounter level crossings reside in rural areas outside the footprint of Sydney television channels. This creates challenges for road and rail agencies in marketing level crossing safety awareness.

Fatal crashes at level crossings are statistically rare events that generally involve a single fatality, that being the driver of the motor vehicle who collided with the train. Although these crashes attract the attention of local electronic and print media outlets, they fail to attract more widespread coverage and any educational benefits in terms of level crossing safety awareness arising from coverage of level crossing fatalities would be minimal.

Safer roads and targeted traffic enforcement are corporate objectives of New South Wales Police Force which includes over 1,100 Highway Patrol officers located throughout the state. The duties or “taskings” of the Highway Patrol are extensive and include speed detection, school zone enforcement, random drug and alcohol testing, criminal interdiction and general patrols of areas of identified road trauma.

The legislation in regards to level crossings in New South Wales is contained in the *Road Rules 2008, Part 10, Rules 120-124*. The enforcement of this legislation is the responsibility of NSW Police Force and primarily undertaken by the Highway Patrol, one of many tasks and competing priorities of the Highway Patrol.

Until the advent of the Level Crossing Awareness and Enforcement Campaign, the highlight of NSW Police Force level crossing public awareness and enforcement was *National Rail Safety Week* conducted each August where police are encouraged to step up patrols of level crossings.

4. Queuing at Level Crossings

Queuing is usually found where a main road runs parallel to a railway line, and where a number of vehicles on the road that traverses a level crossing bank up on reaching that main parallel road. Although warning signs and road markings instruct motorists not to queue over the railway tracks, some motorists choose to ignore those instructions probably in the belief there are no trains coming or likely to come along which unfortunately is not always the case.



Vehicles queued back from roundabout at Orange in central west NSW

Towards the end of 2010, transport agencies and police began looking more closely at the problem of vehicles queuing over level crossings as a number of locations were subjected to closer examination. Some of these locations featured trains operating at speeds of 80km/h or higher that would have little hope of stopping prior to hitting a vehicle queued over a level crossing. Representatives from Transport and Police set about devising new strategies to combat queuing on level crossings and formed a project group.

New South Wales Police Force has significant resources to bring to bear in the area of education and public awareness. Benefits could be achieved if level crossing safety messages could be complimented by a credible enforcement program that would encourage motorists to comply with level crossing legislation and also bring to heel those drivers who chose to ignore the warnings.

What was needed was the ability for police to deploy to the identified level crossings where for an extended period of time to more fully address queuing and other adverse behaviours.

Over a decade ago, the previous RTA and NSW Police Force commenced a scheme where the RTA would provide supplementary funding for police road safety enforcement on NSW roads. If a similar arrangement were made in regards to level crossings, a dedicated police presence at selected level crossings could occur that would not compromise enforcement activities at other locations.

4.1. The pilot campaign; Griffith and Gerringong

With the agreement of senior police, transport agency executives and the LCSC, the project group set about the task of delivering a pilot Level Crossing Awareness and Enforcement Campaign. This pilot campaign was subsequently conducted during February-March 2011 at level crossings in Gerringong (Fern Street) and Griffith (Burley Griffin Way and Ebdon Street). Gerringong is on the NSW south coast and Griffith is located in the south west of the state

The mission of the campaign was “to raise public awareness of level crossing safety through a localised education campaign supported by the tasking and deployment of additional Police resources to selected crossings.”

The pilot campaign consisted of a public education phase followed by a period of police enforcement. The results were reviewed and a report was tabled at the LCSC where it was considered to have been a successful and worthwhile undertaking. The LCSC also endorsed the continuation of the campaign into 2011-12 and the following section will outline the methodology of the Level Crossing Awareness and Enforcement Campaign in detail.

5. Level Crossing Awareness and Enforcement Campaign

At the start of the 2011-12, local Highway Patrol Supervisors and rail operators were invited to suggest sites for targeting during the year and others sites were short listed based on incident reports prepared by the Independent Transport Safety Regulator (ITSR). The level crossings selected consisted of passive (stop signs) and active (lights only or lights/booms) controls.

The project group subsequently devised a schedule consisting of four campaigns for financial year, the LCSC and participating agencies having indicated their support and approved the commitment of resources and funds. Each campaign involved a schedule of programmed activities.

5.1 Pre-Campaign

Despite being placed on the campaign matrix, each site was subjected to on-site traffic counts and observations. TfNSW was responsible for engaging contractors to undertake that task, the purpose of which was to verify that queuing was present at these crossings, thereby validating the expenditure that was to take place. Also, follow-up observations would be made using the same methodology after the campaign, to see if the campaign had been effective in modifying errant driver behaviour.

For the sites selected in 2011-12, the queuing issues were predominantly on weekdays so the pre (and post) campaign observations were scheduled accordingly. The contractors were instructed to avoid making observations if road works or local events that could distort the counts were taking place. The costs for these surveys are approximately \$7,000 per campaign for both the pre and post-observations.

The practice of conducting traffic observations prior to committing other resources resulted in decision not to proceed with fourth campaign for 2011-12 at Parkes. The local Highway Patrol Supervisor did not hold concerns that the proposed Newell Highway experienced queuing and this was confirmed by traffic observation data. Had those traffic counts not been employed, in excess of \$12,000 in additional expenditure would have been incurred for little or no benefit.

From an enforcement perspective, the views of the local Highway Patrol Supervisors were sought in order to gain an insight into any local intelligence that may assist with scheduling. A commitment of resources was required from the local Highway Patrol and it was necessary to garner their support in advance.

Prior to the campaign start, the project group meets and a teleconference is held with other stakeholders such as the local council and rail operators to finalise arrangements and ascertain if any roadworks or other disruptions to the campaign could occur. The teleconference also serves as a safety briefing and confirms emergency procedures should an incident occur at a level crossing and trains need to be stopped.

5.2 Public Education Phase – One Week

These campaigns involve the deployment of Police resources to actively enforce the road transport legislation in regards to level crossings. It was inevitable that motorists would receive penalty notices during the campaign. That being the case, the project group implemented a range of measures to educate and warn motorists in advance noting the mission was to raise public awareness, not revenue.

For many years, road agencies have used Variable Message Signs (VMS) to inform road users of traffic conditions and safety messages. Portable (trailerised) VMS is widely used and can be installed at reasonable cost. RMS would arrange for the installation of VMS at the selected sites, on both sides the selected crossings if the road corridor allowed and the message displayed was not to queue over level crossings and the penalty notice amount (currently \$397). VMS costs are approximately \$2,000 per campaign.

Full advantage was taken of the range of resources offered by the Police Media Unit of NSW Police Force. For each campaign, the Police Media Unit issued a media release prior on the campaign warning motorists of both the crash risks and the penalties for non compliance.

The media release warned of dangers of queuing over railway tracks and overall level crossing safety messages. To amplify the risks of non-compliance, crash data and reports supplied from the ITSRS in regards to the “near miss” incidents that occur at level crossings each month were referred to with the quote that some of the near misses were “so close that the train driver could read the vehicle’s registration number”.

For added impetus, Assistant Commissioner John Hartley, Commander Traffic and Highway Patrol Command was quoted in the police media releases and timed to go out on the same day that the VMS were installed. Electronic and print media outlets in the area of the campaign were the primary target of the releases although they were worded in such a way that they could be picked up by media outlets in other parts of the state.

A seven day period is scheduled to allow for the public education to take full effect. In that time, media outlets would have sufficient time to schedule follow-up reports with local Highway Patrol members. When the releases were issued, media outlet in the target areas and beyond made requests for on-air interviews and photo opportunities with local police.

Social media was also embraced for this campaign and NSW Police Force posted the media release on its *Facebook* site and on *Twitter*. As of June 2012, New South Wales Police Force has over 114,000 “likes” on its main *Facebook* page and 24,400 followers on *Twitter*. These figures show the extent to which social media has grown and how it can help police and other road safety agencies now and into the future.

5.3 Enforcement Phase – Two weeks

Funding was approved for a dedicated police presence at the level crossings selected for each campaign. A two week enforcement window was scheduled and the VMS continued to be in place for this period. Funding was sufficient to allow for three police to perform an eight hour shift on 3-4 separate days. The police profile at level crossings was further assisted by a heightened level of patrols during their normal shifts. Local Highway Patrol supervisors have proven to be adept at selecting the best days for enforcement, based on local knowledge and any available traffic counts.

The actual positioning of police on the ground would be depending on the layout of the level crossing and adjoining roads but would normally involve one officer acting as an observer at the level crossing who would be in radio contact with officers in marked Highway Patrol vehicles in the immediate vicinity. Those police would then conduct a “traffic stop” of vehicles seen queuing over railway tracks or committing other level crossing offences.

The Police representative on the project team maintained regular phone contact with the local Highway Patrol supervisor on the progress of the campaign and traveled to several sites to audit the police activities and to make observations as to the effectiveness of the police taskings. These audits serve as a quality assurance mechanism for the campaign expenditure. Police costs are average \$9,000 per campaign for around 100 hours of highly visible enforcement.



Police stop an offending driver in Griffith (south west NSW) during the pilot campaign

5.4 Post Campaign

Following each campaign, the VMS are removed and the post-campaign traffic counts are conducted. The data captured for the operations conducted thus far suggest that the campaign was successful in reducing instances of vehicle queuing over railway tracks.

The police representative on the project team debriefs the local Highway Patrol supervisor and obtains information necessary to recoup the police expenditure and prepares a report on the enforcement outcomes including the details of any penalty notices issued and a break-up of the people who offended. This data will be of increasing benefit for future level crossing safety marketing campaigns to ensure that advertising and other efforts are designed to target the demographic that are not heeding the warnings.

The project team also holds a debrief meeting and teleconference with the council and rail stakeholders to review the outcomes and any issues arising. The LCSC is also briefed on the campaign which is now a standing agenda item. One LCSC member described the level crossing awareness and enforcement campaign as “the best bang for our buck we have”.

Finally the police debrief report is forwarded to the local Highway Patrol Supervisor and Police Region Traffic Coordinator where it can be shared with the Local Council, usually the Road Safety Officer, and the RMS Regional Road User Safety Manager in the anticipation that those road safety officials can put the lessons learned into practice in the form of further education and police enforcement. Enforcement data key points are contained in *Annexure 1*.

6 Results and Findings

Having been able to maintain a presence at these level crossings for a prolonged period, Police who take part in the campaign are often surprised at the frequency of people found to be queuing and committing other level crossing offences. In the handful of cases where motorists attempted to protest receiving

penalty notices, police were able to point to nearby VMS and the associated media coverage to quickly deflate any road side objections. There has been no adverse criticism received of any police activities regarding the awareness and enforcement campaign.

The use of marked police vehicles stopping motorists in the immediate vicinity of the targeted crossings contributed to favorable post-campaign surveys. For example, the data for the Tamworth Campaign held in October-November 2011 reported that the average numbers of vehicles queuing over the Robert Street level crossing fell by 77% following the awareness and enforcement phases.

Although level crossing offences were the primary target of the enforcement, Police are obliged to stop motorists seen committing other traffic offences and this does occur. For example, six drivers were observed using hand held mobile phones during the Orange campaign alone. That these drivers are more concerned with their telephone conversations than concentrating on the driving task of negotiating a level crossing should be of concern to road safety and rail agencies. In another serious case Highway Patrol police detected a light truck exceeding the speed limit by more than 20km/h whilst driving through a level crossing stop sign.

The enforcement data summary (*Annexure 1*) strongly suggests that it is local people or at the very least country people that are committing level crossing offences, be they queuing or disobeying the applicable controls. Two sites showed an over representation of female motorists. Interestingly there were few younger or “novice” drivers reported during the campaigns, with middle aged males being prominent. Heavy vehicle offences were a feature of the campaigns in Griffith and Dubbo where the selected crossings were on routes used by trucks. This is the type of data that can put to further use either through more local campaigns or in future public awareness strategies.

LIST OF LEVEL CROSSING AWARENESS AND ENFORCEMENT CAMPAIGNS CONDUCTED

Campaign	Dates	Target Level Crossings
Pilot	14 Feb to 11 Mar 2011	Ebden Street Griffith
		Burley Griffin Way Griffith
		Fern Street Gerringong
2011/12 C1	22 Aug to 9 Sep 2011	Byng Street Orange Summer Street (Mitchell Hwy) Orange
2011/12 C2	24 Oct to 9 Nov 2011	Robert Street Tamworth
2011/12 C3	5 Mar to 23 Mar 2012	Boothenba Road Dubbo Manildra Street Narromine
2011/12 C4	16 Apr to 4 May 2012	<i>Canceled based on traffic observations</i>

7 Future Campaigns and other efforts

In order for queuing across railway track to occur, a busy cross intersection needs to be located nearby and many of level crossings where queuing occurs have now been targeted by this campaign. The project group is faced with the decision to wind up the campaign, revisit the same level crossings, or look at targeting other offences. Given the level of interagency support for the campaign, ending the project is not an option and the post campaign reports are designed to allow local agencies to build on the work already conducted.

Fatal level crossing crashes in New South Wales normally occur when a vehicle fails to comply with the controls (signs/lights/bells), enters the crossing and is struck by a train. The project team is now evaluating sites for 2012/13 where non-compliance with level crossing controls and a crashes and/or near-miss incidents have been recorded.

During the past two years, the project team has undertaken additional public awareness strategies. This included the production of a large pull-up “life flashing before your eyes” banner for use at public events. The banner and hand out material was used as part of the 2011 Henty (Farm Machinery and Equipment) Field Days; most level crossings in NSW are located in rural areas and these events are attended by large numbers of country residents, as well as the Police and Road Safety Display during the 2011 Sydney Olympic Park V8 Supercar round.

Considerable discussion around the project group table has centered on heavy vehicles and how best to market level crossing safety to that industry. Rail movements are experiencing a renaissance in some parts of New South Wales at the same time as the road freight task is in the process of doubling³. The experiences of this campaign may assist in devising level crossing awareness strategies that specifically target heavy vehicles.

8 Conclusion

The Crossing Awareness and Enforcement Campaign has been able reduce vehicles queuing over railway tracks and make a positive contribution to road safety at a cost of less than \$20,000 per operation, thus meeting the theme of the 2012 conference of “reducing the cost of road safety”. The only other ingredient is some dedication to road safety on the part of a project team and those working on the ground.

It makes use of social media and the wide reach of Police Media releases as well as on-site Variable Message Signs to raise awareness of level crossing queuing and when motorists fail to heed the warnings, there are real consequences in the form of a penalty notice issued on the spot by Police.

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³ *It is expected that Australia’s freight task in 2020 will be double what it was in 2006 and by 2050 it will be triple its current size.* www.roadreform.gov.au

ANNEXURE 1:

LEVEL CROSSING AWARENESS AND ENFORCEMENT CAMPAIGN

ENFORCEMENT DATA SUMMARY

PILOT CAMPAIGN: GRIFFITH CASE STUDY

- Offences committed in the town of Griffith had a high proportion of female offenders with 66% of offences being by females.
- Conversely, the overall statewide rate of female offending for level crossing offences is 28% (Speeding 25%, mobile phone offences 31%)ⁱ
- The operation within the Griffith area was primarily conducted between the hours of 7am and 3pm, suggesting that more female drivers are on the road at this time

2011/12 CAMPAIGN 1: ORANGE

- The ratio of Male to Female was in line with overall rates of offending for offences of this nature
- Novice drivers appeared to be more compliant than more “experienced” drivers, with no motorists under the age of 21 being reported
- 68% of offending motorists resided in or near Orange
- All offending vehicles were “light vehicles” (under 4.5 tonnes)

2011/12 CAMPAIGN 2: TAMWORTH

- 100% of offending motorists resided in or near Tamworth
- All offending vehicles were “light vehicles” (under 4.5 tonnes)
- 38% of offending motorists were female
- 54% of offending motorists were aged over 40 and the youngest was aged 25.
- Novice drivers again appeared to be more compliant than “experienced” drivers

2011/12 CAMPAIGN 3: DUBBO

- 48% of offending drivers reside in Dubbo or adjacent localities
- About 90% of offending drivers reside in rural NSW
- 93% of offending drivers were male
- 23% of offending drivers were aged 56-65
- 20% of offending drivers were aged 46-55 – ¾ of the offending drivers in this age group were driving a vehicle over 4.5 tonnes (there was a Sale Yards nearby)
- Drivers aged 25 or under accounted for only 12% of offences, as did drivers aged 66 and older
- 24% of offending vehicles were over 4.5 tonnes

ⁱ Provisional NSW Police Data