Submission

No 27

INQUIRY INTO SCHOOL ZONE SAFETY

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NRMA Motoring & Services

School Zone Safety

Submission to NSW Staysafe Committee Inquiry

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About NRMA Motoring & Services

NRMA Motoring & Services (NRMA) comprises more than 2.3 million Members in NSW and the ACT. For more than 90 years, NRMA has represented the interests of motorists in relation to road funding, road safety and other related public policy issues.

Throughout the years, NRMA has advocated for safety improvements for road users focussing on the three key themes of safer drivers, safer roads, and safer vehicles.

Comments and Queries

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Introduction

NRMA Motoring and Services (NRMA) welcomes the opportunity to provide this submission to the Joint Standing Committee on Road Safety (the Staysafe Committee).

In 2009, NRMA provided an extensive submission to the NSW Audit Office's performance audit into school safety and the NSW Roads & Traffic Authority (RTA). A copy of this previous submission has been provided to the Staysafe Committee secretary for information. The document is available on the www.myNRMA.com.au website and NRMA would be pleased to provide further copies on request.

NRMA's submission to the Staysafe Committee Inquiry into School Zone Safety does not seek to repeat our previous submission to the NSW Audit Office, however, a number of issues raised in NRMA's submission to the Audit Office are still current, and provide opportunities for the RTA and local government to improve conditions around schools.

Some of these opportunities are included in this submission to the Committee, particularly in relation to our response to the following:

Term of reference (g): Any other related matters.

Our submission also focuses on the following term of reference identified by the Committee:

Term of Reference (e): The appropriateness of a single approach school zone regime as opposed to modifying zones based on existing infrastructure and other current safety measures employed around schools.

NRMA Members' views on School Zones

Ever since the introduction of school zones, NRMA Members have provided us with considerable comment and feedback. It is clear that the overwhelming majority of motorists support measures to improve the safety of children around schools, and understand the need to reduce speeds in order to minimise the likelihood of casualties in the event of a collision.

We believe that a majority of motorists do not wilfully exceed the school zone speed limit of 40km/h. Rather, most of those who are infringed have accidentally exceeded the speed limit because they were not aware that the limit applied at that time. This could be because:

- they did not see the school zone sign or road marking;
- they were not aware of the time;
- they were not aware of their speed;
- they were not aware that it was a school day; or
- they thought that it was a 'pupil-free' day (and therefore thought that the school zone limit did not apply).

There are several reasons why motorists might not be aware of school zones, including:

- they are not parents of school age children (and thus not aware of school term times);
- the school zone signs are missing, poorly positioned (including being obscured by trees), or are unsuitable for the type of road and traffic mix (such as only being positioned on the left hand side of a multi-lane road); or
- the school zone road markings are missing or faded or obscured by heavy, close-following traffic.

For a motorist to be ready to comply with the school zone speed limit they must be in possession of many pieces of information:

- whether or not it is a school day;
- the time of day;
- the start and end point of the school zone in relation to their current position; and
- their current speed.

The introduction of flashing lights at school zones has helped to remove ambiguity or doubt about when the 40km/h limit applies, however, we note that only around one quarter of all schools in NSW have flashing lights protecting their zones, and it is unusual that all zones around a school would have flashing lights. We are particularly concerned about the financial cost of installing flashing lights in NSW and this submission highlights some potential alternatives that in particular may be more applicable to lower volume or lower speed streets.

List of Recommendations

Given the inherent safety risks from motorists not seeing and responding to school zones, NRMA recommends a number of initiatives to enhance safety around schools.

Recommendation 1:

NRMA recommends that infringement revenue from speed cameras is hypothecated into road safety improvements. NRMA surveys reveal that public support for enforcement cameras increases if the camera is redirected back to road safety initiatives. We believe that there is strong justification for traffic fine revenue to be used as extra funding for road safety.

Recommendation 2:

NRMA recommends that the RTA replaces all yellow school zones signs with fluorescent yellow green – the Australian Standard requirement outlined in AS1742.4-2008. The current approach adopted by the RTA in response to NRMA's 2009 audit into school zone signs is not working, as evidenced by the large number of deficient school zone signs across NSW.

Recommendation 3:

NRMA recommends that the RTA adopts a program of annual audits of each school zone to identify any maintenance or operational issues.

Annual audits would help to identify issues observed by NRMA and its Members, such as trees growing across school zone signs, faded traffic signs and line markings, and poorly positioned signs. Audits would also help to identify issues including whether any changes are required to parking signs or to pedestrian crossings. Audits could also include an evaluation of any available data such as speed surveys and infringement data.

We recommend such audits should be jointly undertaken by the RTA's local traffic committee representative, Council's traffic engineer and road safety officer, the school principal, a representative of the school Parents and Citizens association and the NSW Police. The results from, and follow up actions to each audit should be provided to each organisation involved in the audit and publicised.

Recommendation 4:

NRMA recommends that the RTA sets up a reporting database for both the public and Government staff to report school zone and other road deficiencies, to track issues and allocate to appropriate RTA staff, as well as provide accountability for actions, record the outcome and provide transparency.

Such a system would enable RTA switchboard staff to quickly advise members of the public on the status of any issues raised and determine which RTA officer has responsibility for the issue.

It would assist the RTA fulfil its aim of 'mainstreaming' road safety through the organisation by enabling RTA's management to track issues, ensure issues are addressed and responded to in a timely manner, and to compile data for reporting purposes.

It would also provide a means whereby other government agencies such as AusGrid (the network business of the former Energy Australia), Essential Energy (previously Country Energy) and Endeavour Energy (previously Integral Energy) could inform the RTA when a power pole has been relocated that now obscures a traffic sign.

Recommendation 5:

NRMA recommends that the RTA develops strategic guidelines for school zones, identifying best practice and assistance for traffic engineers in addressing both standard and unusual situations. It would help address fundamental issues such as whether the position of a sign is correct and can readily be seen by traffic in all lanes on multi-lane roads (where signs can often be obscured by the increasing number of heavy vehicles).

Recommendation 6:

NRMA recommends that the RTA engages an independent body to review to what extent the advertising on pedestrian bridges at schools is causing a distraction to motorists within school zones. An independent body is necessary to negate any possible conflict of interest as a result of advertising revenue being used to fund pedestrian bridges.

Recommendation 7:

NRMA recommends that the RTA publishes the criteria on which it bases its decisions for assessing a school's eligibility for flashing lights, and also that the RTA incorporate a vehicle speed assessment into this criteria based on the 85th percentile speed of passing traffic.

Recommendation 8:

NRMA recommends that the RTA reassess its requirement that all school zone flashing light installations require back to base communications linking the flashing lights to the RTA's Transport Management Centre.

We believe there may be a rationale for requiring such communications where a fixed speed camera is located within the school zone to reduce any ambiguity over whether the flashing lights are operational. Elsewhere we believe the RTA could install lights that are able to be programmed to operate at pre-determined time settings that align with the school zone times.

Recommendation 9:

NRMA recommends that the RTA consider alternative types of flashing lights (such as those used in the United Kingdom) to highlight school zones. These could represent an alternative solution that the RTA could trial for streets with lower traffic volumes and speeds.

Recommendation 10:

NRMA recommends that the RTA undertake an evaluation of those school locations that have benefited from additional measures, such as installation of pedestrian bridges and fences, in order to determine how effective these have been in facilitating the safe crossing of these roads.

Recommendation 11:

NRMA recommends that the Committee consider whether alternative ways to highlight schools should be adopted within full time 40km/h areas. The RTA currently requires 40km/h areas to contain physical devices or treatments to create a self-enforcing 40 km/h speed environment.

Recommendation 12:

NRMA recommends that the RTA consider alternative treatments to enhance safety around schools, for example:

• Using '40 ahead' signs to warn motorists in advance of particular school zones (for example, where there is a large speed differential between the default speed limit and the 40km/h school zone limit);



Figure 1 – example of advance warning sign used in Victoria

• A greater use of small repeater signs within school zones (particularly lengthy zones) to reinforce the existence of the school zone;



Figure 2 – example of repeater sign used in Victoria

• The use of pavement markings to deter illegal parking. Similar measures are used extensively in the UK, and are used in other states, such as Victoria, but have only been used in a few situations in NSW (for example, Glebe Point Road outside Glebe Primary School); and



Figure 3 – example of pavement markings used in Victoria to deter illegal parking and assist public transport

• A trial of zig-zag lines on the approach to pedestrian crossings to reinforce the 'No Stopping' restrictions and further highlight pedestrian crossings. The RTA currently only uses zig-zag lines in the centre of the traffic lane and then only in isolated situations where there is a sight distance issue to the crossing.



Figure 4 – zig-zag lines at a zebra crossing in the UK from 2pass.co.uk website

Recommendation 13:

NRMA recommends that the Committee consider:

- whether opportunities may exist to make school term start and end dates consistent across the State to improve the understanding of school zones and the effectiveness of any publicity of the zones;
- whether school zones should commence on the day on which the school term starts for students (and not on staff development days);
- whether the RTA can do more to improve driver awareness of the days on which school zones are operating, particularly at the beginning and end of the school term;
- whether the days when school zones are NOT in operation can also be promoted to reduce driver confusion and congestion (for example, through the use of electronic variable message signs); and
- what opportunities may exist to improve driver awareness of the gazetted school days.

Staysafe Term of Reference (e)

The appropriateness of a single approach school zones regime as opposed to modifying zones based on existing infrastructure and other current safety measures employed around schools.

Standard School Zone Treatments

NRMA notes that every school is provided with one or several school zones, depending on the number of street frontages. With the exception of flashing lights, and a small number of school zones displaying different hours, the school zone signposting and road marking is to a common standard:

- School Zone 40 km/h signs (and End School Zone signs).
- '40' [km/h] road markings at the start of the zone.
- 'Dragon's Teeth' longitudinal pavement markings at the start of the zone.



Additionally, it appears that some school zones have been provided where there is a crossing patrolled by a school crossing supervisor, even though the crossing may be located remote from a school. It is believed the RTA has implemented these zones in regard to the occupational health and safety of school crossing supervisors.

Enhanced Safety Treatments

The school zone treatment standard applies regardless of whether other traffic or road safety facilities have been provided. Such facilities may include:

- Pedestrian fencing (to prevent students accessing the road surface, other than at safe crossing points);
- Marked foot crossing ('zebra');
- School crossings (part time crossings incorporating flags);
- Raised crossings ('wombat');
- School crossing supervisors;
- Traffic signals; and
- Overhead pedestrian bridges (grade separation of pedestrians from traffic).

In some cases, a combination of the above facilities is provided, maximising safety and minimising the risk of students conflicting with traffic.

An example is Fort Street High School on Parramatta Road at Petersham. At this location a 40km/h school zone has been provided on Parramatta Road, pedestrian fencing has been installed on the footpath outside the school, a pedestrian bridge has been installed across Parramatta Road and drop off and pick up of students occurs in side streets.



Figure 7

Other Sydney examples where pedestrian bridges and fencing have been provided in conjunction with school zones include:

- Riverside Girls High School on Victoria Road at Henley (also has flashing lights);
- St Marys Primary School on Parramatta Road at Concord (traffic signals are also provided at this location);
- Auburn North Public School on Parramatta Road at Auburn (also has flashing lights);
- Bonnyrigg High School on Elizabeth Drive at Bonnyrigg (a median island pedestrian fence is provided); and
- Chatswood Primary School on Pacific Highway at Chatswood (also has flashing lights).

Clearly there has been a significant road safety investment at these locations. It is unclear if the RTA has undertaken an evaluation of these locations to determine how effective the pedestrian bridges and fencing have been in enhancing safety, including facilitating the safe crossing of these roads.

School Zones Within Full Time 40km/h Areas

The current NSW Speed Zoning Guidelines (RTA, Version 4, issued 2011) allow for full time 40km/h high pedestrian activity area (HPAA) speed limits to be installed where there are relatively large numbers of pedestrians or other vulnerable road users.



Figure 8

The Guidelines state that these areas should be established in conjunction with a suitable local area traffic management scheme. The Guidelines further state that these areas will need to contain physical devices or treatments to create a self-enforcing 40km/h speed environment. Typical examples of such treatments include speed humps, raised crossings, kerb extensions and contrasting road pavement colours or textures.

Examples of 40km/h areas in Sydney include the whole Balmain peninsula, north from Victoria Road, the North Sydney CBD and nearby streets, the Manly CBD and Chatswood CBD.



Some of these 40km/h areas also incorporate school zones (for example, Balmain, North Sydney and Manly). The following figure shows the situation in Bay Street, North Sydney.

Figure 9 - Bay Street, North Sydney (Source: Google Maps)

These result in a situation where although the full time speed limit throughout the area is 40km/h, a part time 40km/h school zone is also in operation during school zones hours.

This is an unusual situation and adds to the amount of street furniture in terms of signs and line markings. It may also potentially lead some motorists to consider the 'End School Zone' sign means that the speed limit reverts to the standard urban speed limit of 50km/h. The number of schools located within full time 40km/h areas will increase with these areas becoming more prevalent.

School signs other than 'school zone' signs are available for use to advise road users of the presence of schools, however, these are not used within 40km/h areas since the standard approach in NSW is to install 40km/h school zones around every school.

Staysafe Term of Reference (g)

Any other related matters.

The Lack of Default Speed Limit Signs Within School Zones and the Issue of Lengthy School Zones

Currently, the signposting of school zones consists of a 'School Zone 40' sign at the start of the zone and an 'End School Zone X' sign at the end of the zone, where X is the default speed limit for that section of road

Between these two signs there is usually no indication of the applicable speed limit, although in some lengthy school zones, a 'repeater' school zone sign may be installed to remind drivers that the school zone still applies.

However, a problem arises outside school zone hours since there are no speed signs or road markings located between the start and end school zone signs to advise motorists of the default speed limit. The same is true at school zone speed camera sites – motorists are not informed of the applicable default speed limit at the point of the speed camera, and must rely on their memory of the last speed limit sign they saw before the start of the school zone.

In the absence of electronic changeable school zone signs, this issue could potentially be resolved in one of two ways – either the school zone speed camera is set to operate during school zone hours only, or the signs are adjusted to provide advice of both the school zone speed limit and of the default speed limit.

Lengthy school zones, such as the 1.2km zone on King Georges Road at Beverly Hills, can cause particular issues for motorists (although the NSW Government decision to provide a consistent speed limit along King Georges Road may improve this particular situation).

Some other examples of unusually long school zones include:

- Pacific Highway from the F3 at Wahroonga to Finlay Road at Warrawee (about 2 km).
- Pennant Hills Road from James Ruse Drive at North Parramatta to Bettington Road at Oatlands (about 1.8 km).

Adoption of Fluorescent Yellow-Green School Zone Signs

NRMA is particularly keen to see a much faster roll out of fluorescent yellow-green school zones signs (the current Australian Standard requirement outlined in AS1742.4-2008).

The current situation facing motorists in NSW is inconsistent with school zone sign colours varying from yellow to faded to fluorescent yellow-green across the State, across areas and even within individual school zones.

The benefits of fluorescent yellow-green are well documented and helped to form the basis for NRMA advocating the RTA adopt this colour for school zone signs. For example, international research has found that fluorescent signs:

- are first seen by drivers at a distance of 130 metres compared with 75 metres for nonfluorescent signs;
- have superior colour contrast, are more conspicuous and result in quicker response times from drivers;
- outperform regular yellow signs in terms of detection and shape recognition, particularly for older drivers; and
- have a greater cognitive impact on motorists.

NRMA is able to provide further evidence of this to the Staysafe Committee if this would assist.

In July 2009, NRMA carried out an audit of a number of school zone signs in the St George region. The audit identified a high percentage of school zone signs that were not providing an effective warning to motorists due to them being faded, or for other reasons such as being obscured by trees and power poles.

In response to the NRMA audit, the then NSW Minister for Roads committed to install fluorescent school zone signs and stated that "These new fluorescent yellow-green signs will start rolling out this school term as part of the RTA's maintenance program... When old signs need replacing, these new signs will be installed in their place."

However, we are concerned that in spite of assurances from the RTA that it has undertaken a comprehensive audit of school zone signs since NRMA's 2009 audit, we continue to identify deficient school zone signs across the State. Since this NRMA audit, the RTA has also installed 'dragon's teeth' road markings at the entrance to every school zone in NSW. The identification and rectification of deficient school zone signs does not appear to have formed part of this program of works and this represents a lost opportunity.

We are also concerned that there does not appear to be any commitment by the RTA, as part of its flashing lights program, to ensure that faded or obscured school zone signs and line markings are identified and rectified at those schools where flashing lights are being installed. Again this appears to be a lost opportunity and does not appear to be conducive with the RTA's stated aim of mainstreaming road safety through the organisation.

In this instance, there appears to be little cohesion occurring between the various RTA programs of work. It appears that identification of faded school zone signs and 40km/h road markings is considered a maintenance issue and not part of either the dragons teeth or flashing lights programs.

Clearly, the current approach adopted by the RTA since 2009 – to replace school zone signs as part of general maintenance – is not working. The wholesale replacement of the old yellow coloured school zone signs with fluorescent yellow green would resolve this issue and this was previously costed in our report to the Auditor General.

Earlier this year, NRMA used the below photographs, to advocate for improvements to a school zone located in Orange.



Figure 10 - photographs of school zone signs in Anson Street, Dubbo (taken June 2011)

Markings on these signs showed they had been installed in 1993 (although new school times had later been added to these signs). The reflective tape used in 1993 was warranted to last for 7 years which means these signs should have been replaced 11 years ago.

In comparison, the new reflective fluorescent yellow-green material used on school zone signs is warranted to last 12 years but may last as long as 15 years before needing to be replaced.

Unfortunately, these examples from Orange are not unusual and demonstrate how the RTA does not appear to currently have any systematic, effective way to audit the reflectivity and general condition of a traffic sign.

Signs such as this have particular relevance in the context of comments by the Director of the RTA's Centre for Road Safety: "I have a [sic] sympathy for people who speed inadvertently. But it is part of our role as a driver to know what speed limit we're in." (Dr S. Job, 10/8/09).ⁱⁱ



Figure 11 – photograph of a deficient 40km/h school zone 'patch' at Bardwell Park in Sydney's south (October 2011).



Figure 12 - example of deficient school zone sign outside North Dubbo primary school (August 2009). The red annulus around the 40km/h speed limit has completely faded away, there is no yellow panel and the school zone times have been changed using stickers. The photograph is included here since it highlights the difference with a fluorescent yellow green sign (as demonstrated by NRMA Motoring & Services Director Mr Graham Blight).

Flashing Lights

NRMA believes that a motorist's awareness of school zones and ability to comply with the speed limit has been significantly improved where flashing lights have been installed, with positive implications for road safety. This is based on a variety of evidence including NRMA's own observations and feedback received from NRMA Members that flashing lights help motorists identify both the school zone and when it is operational, enabling them to adjust their speed accordingly.

We would like the RTA to expedite its flashing lights program and to explore ways in which the number of flashing lights could be expanded.

We would like to see a commitment to extend the current flashing lights program to encompass additional schools, using funding from the previous NSW Government's stated commitment to hypothecate infringement revenue collected from school zone speed cameras to road safety projects.

We question the need for costly back to base communications linking the RTA's flashing lights to the RTA's Transport Management Centre. We believe there may be a rationale for requiring such communications where a fixed speed camera is located within the school zone to reduce any ambiguity over whether the flashing lights are operational. Elsewhere we believe the RTA chould consider installing lights that are able to be programmed to operate at pre-determined time settings that align with the school zone times.

As an example, flashing lights such as those used in the United Kingdom could represent an alternative solution that the RTA could trial for streets with lower traffic volumes and speeds.



Figure 13 – example of a special school safety zone sign from the UK. Whilst this sign face contains additional advice for motorists, flashing lights such as these are also used in conjunction with just the 'children' symbolic triangle sign without the additional advice. (Source: Glossop, Derbyshire, UK)

In the UK, flashing lights have been used to supplement existing symbolic school signs. In general, the technology used appears to be significantly cheaper than that adopted by the RTA. One advantage of these lights is they do not require any change to existing school signs since they can be attached to the existing sign post.

The Victoria Government initiative to install 800 electronic speed signs outside more than 250 schools across Victoria on roads with a speed limit of 70km/h and the busiest 60km/h roads at cost of \$13.6 million. This follows on from a program to install electronic speed limit signs outside schools on roads with an 80km/h or higher speed limit.ⁱⁱⁱ In comparison, the RTA's previous flashing lights at 400 schools cost \$46.5M.



Figure 14 – example of an electronic speed sign used in Victoria

We are concerned that there is still no publicly available information on the RTA criteria for assessing a school's eligibility for flashing lights.

In NRMA's view, flashing lights should be allocated to those schools where the risk is greatest. One of the indicators of risk is the difference between the 'normal' speed limit (outside school zone times) and the 40km/h school zone limit. For example, if the normal limit is 70km/h, the motorist is required to reduce their speed by 30km/h (or 43%) to comply with the school zone. But if the normal limit is 50km/h, the required reduction is only 10km/h (or 20%).

Research shows that flashing lights reduce ambiguity about a school zone's operational status, and thus improve compliance with the 40km/h speed limit. It is in everyone's interest to maximise compliance, and so it would appear to be logical that flashing lights should be deployed first at those locations which have the greatest differential between the normal speed limit and the school zone limit.

We are aware of school zones where the speed of through traffic does not appear to be a significant issue and given this, it is unclear whether the RTA actually undertakes speed surveys at schools prior to making its decision.

Definition of a 'School Day'

A recent article in the *Sydney Morning Herald* stated that "About three times the number of drivers are caught speeding in school zones on pupil-free days because they wrongly assume that they are not official 'school days."¹¹

This issue identified by the media illustrates the confusion that exists amongst motorists regarding the dates when school zone speed limits apply.

NRMA, along with the Staysafe Committee, has consistently recommended the RTA proactively use infringement data to identify and address those locations and times of day when there are a significant number of camera infringements.^{\vee}

Issues that contribute to this confusion on the part of motorists include:

- the discrepancy between the gazetted start of a school term and the day in which school students actually return to school. This is a result of staff development days or pupil free days;
- not all public schools apply the nominated staff development days as listed on the 'www.schools.nsw.gov.au' website. For example, staff development days held on the last day of the school term may cause parents with students at these schools to believe that the school term has ended and hence that school zones are not in operation; and
- school term start and end dates sometimes, but not always, differ between the NSW Eastern and Western divisions. For example, whilst the Western 2011 Term 1 dates differed from the Eastern Term 1 dates, Terms 2-4 were consistent across the Western and Eastern divisions. This may cause confusion for motorists travelling across NSW as well as making it difficult for the NSW Government, the RTA, and the NSW Police to publicise a consistent message on when school zones are in operation.

NRMA would like to see these difficult issues recognised by the RTA. Possible issues for consideration include:

- whether any opportunities exist to make school term start and end dates consistent across the State to improve the understanding of school zones and the effectiveness of any publicity of the zones;
- whether school zones should commence on the day on which the school term starts for students;
- whether the RTA can do more to improve driver awareness of the days on which school zones are operating, particularly at the beginning and end of the school term;
- whether the days when school zones are NOT in operation can also be promoted to reduce driver confusion and congestion (for example, through the use of electronic variable message signs); and
- what opportunities may exist to improve driver awareness of the gazetted school days.

Further complications include:

- school term start and end dates differ between States an issue for motorists crossing borders, especially interstate trucks; and
- private and public school terms commencing on different dates.

References

ⁱ Minister for Roads (Daley) News Release, 'Safer signs for school zones' 29/7/09 http://www.rta.nsw.gov.au/newsevents/downloads/ministerial_media_releases.html

ⁱⁱ Dr Soames Job, Director NSW Centre for Road Safety, NSW Roads & Traffic Authority appearing on 'A Current Affair', Channel 9, 6.30pm 10/8/09

ⁱⁱⁱ Victoria Minister for Roads and Ports (Tim Pallas) - Media Release 'New Speed Signs Alert Motorists to 40km/h school zones' 10 July 2009 http://www.premier.vic.gov.au/minister-forroads-ports/new-speed-signs-alert-motorists-to-40km/h-school-zones.html

^{iv} Sydney Morning Herald. School's out but cameras on duty. Richard Blackburn July 17, 2011 http://m.smh.com.au/drive/schools-out-but-cameras-on-duty-20110716-1hj01.html http://www.schools.nsw.edu.au/calendar/?do=setViewperiod&categoryid=21&viewType=year View

^v NRMA Motoring & Services 2009 Submission to NSW Audit Office – School Zone Performance Audit, pp7-9 http://www.mynrma.com.au/about/reports-brochures-policy-submissions.htm