



Institute of
Public Works
Engineering
Australia
(NSW Division)



IPWEA (NSW) ROADS & TRANSPORT DIRECTORATE

Staysafe (Joint Standing Committee on Road Safety)
Parliament House
Macquarie St
Sydney NSW 2000

20 September 2011

Dear Sir / Madam,

School Zone Safety (Inquiry)

INTRODUCTION

The Institute of Public Works Engineering Australia (IPWEA) is a not for profit, membership based, professional organisation representing engineers and others involved in the provision of public works and services predominantly in the local government sphere.

The Roads & Transport Directorate has been set up by IPWEA (NSW) in conjunction with the Local Government and Shires Associations to provide support to its members working in local government across the state. It is supported financially by membership contributions from Local Councils in NSW.

BACKGROUND

The Roads & Transport Directorate has been set up to meet the demand from members of IPWEA (NSW) over the past few years to act as a focus for research activities and to provide technical advice.

Its main purpose is to assist Local Government in NSW in the area of road infrastructure and transport related activities by:

- Assisting members in discharging their road management roles in the most effective manner consistent with current legal obligations and the most recent technical practices in the critical area of consistent and cost effective asset management and road safety;
- Assisting the IPWEA (NSW), the Local Government Association of NSW and the Shires Association of NSW, individual Councils and members in lobbying for a higher priority to be placed on road infrastructure provision and maintenance and for a more equitable share of resources and funding; and

- Providing for IPWEA members and Local Government a powerful technical and research resource on transport issues at regional, state and national level. The activities would be, as circumstances dictate, either proactive or reactive to achieve the optimum benefit for the region or state.

The Directorate commenced operation in October 2004 and has been involved in determining the needs of members and developing solutions to meet those needs. Over that period the Directorate has made submissions on a range of issues. Copies of these submissions¹ are available on the website at: www.roadsdirectorate.org.au.

IPWEA'S ROAD SAFETY BACKGROUND

Until June 2010 IPWEA worked closely with the RTA to deliver the Local Government Road Safety Strategy which was a central component of the Local Government Road Safety Program, developed under the state-wide program for road safety management in NSW. The Program encouraged local government to adopt a corporate approach to road safety specifically through the support for road safety planning, the administration of seed grants and training and through the facilitation of information flow. This programme was a major driver for the implementation of road safety strategies within Local Government in NSW.

IPWEA currently operates a long standing Road Safety Panel to assist Councils across NSW in dealing with road safety issues. The Panel comprises voluntary participants from the membership of the IPWEA, representing rural and urban councils, RTA; Local Government Association of NSW and Shires Association of NSW; Australian Institute of Traffic Planning and Management; Motor Accidents Authority and consultants practising in the road safety area. Panel activities include:

- Strong support for an ongoing Federal commitment to the Federal Road Safety Blackspot Programme
- Continued support for the Local Government Road Safety Program and IPWEA involvement
- Continuation of the Roads and Road Safety Stream at the annual IPWEA Conference
- Continued support for road safety professional development
- Support for the Road Safety Auditors register
- Revision of the IPWEA Road Safety Panel Strategic Action
- Providing support towards the development of the Roads and Transport Directorate within the IPWEA
- Continuation of the Road Safety Speakers Bureau

¹ Copies of submissions are available at:
<http://www.ipwea.org.au/RoadsTransportDirectorate/AboutRD/Submissions/>

RELATIONSHIP BETWEEN LOCAL GOVERNMENT AND STATE ROAD AUTHORITIES

In NSW, Local Governments are “Road Authorities” under the Roads Act, 1993. Local Government has responsibility for 85 percent of the road network and accounts for over 50 percent of road accidents.

However, the primary responsibility for Road Safety according to the NSW State Plan is vested in the Roads and Traffic Authority (RTA). The challenge for governments is to translate the key performance targets for Road Safety into the local government arena while ensuring adequate resources to deliver the desired outcomes. In our submission to the “National Road Safety Strategy 2011-2020” earlier this year we argued that this may be achieved by three broad actions:

1. Partnership between the State Road Authority and Local Government on road safety. This implies recognition of the expertise residing in each authority and building on that sound base.
2. Encouragement of Local Government to embrace Road Safety as an essential element of their risk management planning. Existing legislation should be sufficient to ensure this outcome. Some adjustment to regulation may be required.
3. Provision of adequate resources to Local Government to meet their obligation. We have noted (in the submission) the shortfall in funding to maintain service levels of the road and bridge network. Local government cannot bear further cost shifting.

The details of this shortfall in asset renewal funding are available in the Roads & Transport Directorate’s *2010 Road Asset Benchmarking Report*² and *2010 Timber Bridge Asset Benchmarking Report*³.

Many of the road safety outcomes in local communities have been delivered through the Local Government Road Safety Program (LGRSP). This was a collaboration between the RTA, LG&SA and IPWEA. The program enabled Road Safety Officers to be employed in Councils with a focus on addressing behavioural issues. This program has been curtailed by the RTA and no clear assurances have been given to Road Safety Officers that their roles will continue to be 50 percent funded by the RTA beyond 2012. This uncertainty has prompted many excellent Officers to resign and seek alternative employment. This represents a loss of expertise challenging the opportunity that Action 1 above offers.

OUR SUBMISSION

The following sections of this submission are made up of information provided by a number of members from around the state. These members are employed by local councils as Design Engineers, Road Safety Officers and Technical Managers. Information provided from these sources has been edited for clarity of the submission.

² 2010 Road Asset Benchmarking Report is available at:
<http://higherlogicdownload.s3.amazonaws.com/IPWEA/c7e19de0-08d5-47b7-ac3f-c198b11cd969/UploadedImages/Asset%20Benchmarking%20Project/Road%20Benchmarking%20Report%202010.pdf>

³ 2010 Timber Bridge Benchmarking Report is available at:
<http://higherlogicdownload.s3.amazonaws.com/IPWEA/c7e19de0-08d5-47b7-ac3f-c198b11cd969/UploadedImages/Asset%20Benchmarking%20Project/Final%20Bridge%20Report%202010.pdf>

To provide some degree of structure, the information has been divided into headings corresponding with the Terms of Reference.

a) *The effectiveness of school zones in reducing pedestrian casualties during school zone times;*

Current trends reflect both a decrease in the number of overall pedestrian related incidents as well as incidents around schools since school zones were introduced. This decrease can be attributed to the use of the current treatments such as;

- 40km zones,
- dragons teeth,
- flashing lights,
- designated school crossings, school crossing flags and the use of school crossing supervisors.
- Speed cameras in school zones
- Drop Off and Pick Up initiatives

Members' submissions included:

- *Another important factor is the use of education campaigns aimed at motorists through the use of cause and effect in regards to behavioural change. These awareness campaigns coupled with the above treatments have certainly reduced the incidents and lowered the risks for school students.*
- *Enforcement is a valuable tool in reinforcing the road safety message.*
- *School crossing flags – abused system that relies on schools to put in and out each day which does not happen in most cases – in this age of radar/motion activated technology a better system is required.*

And:

- *The main issue is the school crossings. I find that people generally have lack of understanding about how they are meant to function, and do not believe they are as effective as pedestrian crossings. There have been no crashes that I know of on school crossings, but I have heard from school staff and Rangers that people often park on crossings as well as commit other offences such as u-turns, fail to stop at the hold line, drive through when there are pedestrians on the crossing etc.*
- *The flags are also a contentious issue: some schools refuse to put the flags out, particularly if the crossing is a distance away from the buildings, and / or refuse to take them in during the school day.*
- *The schools do not also accept liability for the flags - I have taken this up with the Dept of Education locally, who refer it to their legal branch, but I have not been given a definitive answer. Teachers' duties have been modified since the school crossing legislation went through and it has not been updated as far as I know. This is a particular problem for High Schools I believe: it's often left for the maintenance staff or executive staff, but this is not reliable.*

- *Flags are often stolen - crossings often function with no flags at all.*

b) *The major contributing factors to pedestrian casualties in school zones;*

The major factors observed by council road safety practitioners include

- Lack of driver awareness which includes entry into the school safety zone area,
- excessive speed,
- lack of awareness of road rules,
- unpredictable behaviour of students
- inappropriate parking in restricted zones by parents and carers.

The idea behind school safety zones is to minimize the risk of injury to a child coming onto the carriageway. At the slower speeds studies have shown that the reaction time of drivers is increased and the chance of injury is decreased.

The following example, provided by a member, shows the difference between a 40kph speed zone and a 50kph speed zone:

A car is travelling at 40 km/h. Another car is travelling at 50 km/h. Both drivers see a child about 27 metres ahead, recognise the danger and brake. The car travelling at 40 km/h will stop safely after 26 metres, avoiding the child. The car travelling at 50 km/h will take an extra nine metres to stop, and will still be travelling at 41 km/h when it hits the child.

Even a small difference in vehicle speed can make a large difference to the probability of serious injury. If a car hits a pedestrian at 50 km/h the car driver is twice as likely to kill the pedestrian than if the car hits a pedestrian at 40 km/h.

For every extra kilometre per hour of speed:

- *the stopping distance increases.*
- *the time to react and avoid a crash decreases.*
- *the impact of a crash is more severe on the vehicle, driver, passengers and pedestrians.*
- *the likelihood of serious injury or death increases*

c) *Age as a factor in pedestrian crash risk and the major contributing factors for casualties by age cohort around school zones;*

In general pedestrian accidents statistics have shown that the age groups most greatly represented are school aged children up until primary school and the elderly. These statistics back up the evidence that those most at risk at being injured in a pedestrian related accident are those with underdeveloped or diminished cognitive ability. Also lack of supervision of children and the unpredictability of these children is a contributing factor to accidents.

d) The deployment of alternative facilities to reduce reliance on school zones, such as grade separation, traffic lights and fencing;

A member has advised:

The cost benefit analysis of these treatments has to be compared to the mandatory treatments used throughout the community. In our Local Government area only two schools have flashing lights with another to be installed. The two existing schools with flashing lights are on a major thoroughfare. These treatments are effective on roads with high traffic volumes however the use of these alternate treatments would be not as effective in areas of lower traffic volumes. A key point to make here would be the use of alternative treatments is only necessary in areas where schools have a high traffic flow past the school.

Another member has raised the issue of the reluctance of state agencies to contribute to safe access to schools as part of the development process. The member bases the following comments on dealing with 19 new school developments over an 18 year time span.

The public school system through the NSW Department of Education & Communities have continually demonstrated a reluctance and on occasions a refusal to assist with the provision of appropriate & necessary traffic management infrastructure. This has been highlighted by comments from the NSW Department of Education & Communities similar to "we are in the game of providing schools not roads" whereas the non-public schools appear to be conscious of safety issues & although costly they want to make things better for the school users. Recently the NSW Department of Education & Communities refused to pay Section 94 contributions (Environmental Planning & Assessment Act) towards a signalised intersection & Council was ordered to arrange for the construction of the signalised intersection in time for the programmed opening of the school. There was no intersection design carried out & Council didn't have the funds for the works which was in the vicinity of \$ 1.2m & the schools contribution was in excess of \$ 700,000.

1. The list below identifies issues generally associated with new public school development where the NSW Department of Education & Communities either refuse or create opposition to the provision of necessary infrastructure:

- *Parking (on site) relating to insufficient parking for staff & no consideration for secondary students that drive.*
- *Bus facilities*
- *Crossing provisions & traffic calming*
- *Kiss & ride*
- *Pedestrian facilities*
- *Cyclist facilities*
- *Section 94 contributions towards road & traffic infrastructure (refer case above)*
- *Joint venture community facilities (shared facilities that generate significant traffic outside of school hours)*
- *Clear & obvious school warning signs, markings & other regulatory signage.*

It is necessary for the NSW Department of Education & Communities to work with Local Governments in this regard to provide facilities & solutions to such issues rather than deliberately creating them & then passing the problems on to the communities to

resolve. Most times the solutions are band aids, rather than optimum solutions that could have easily been resolved early in the process.

2. The recent Building the Education Revolution (BER) appears not to have considered the safety implications associated with:

- Removal of areas that may have provided overspill car parking for senior students*
- Construction traffic & construction staff parking (mixing with children & the school communities)*

3. Changes to existing schools may require the review of the adjoining road systems & provide additional or enlarge existing traffic facilities (incl bus bays) to accommodate such changes.

4. Growing new suburbs will require consideration of heavily trafficked pedestrian & cyclist routes from & to schools.

This may also be necessary where major roads are upgraded and school crossings may not be suitable any longer & grade separated crossings are necessary.

5. New major urban release areas need to be planned/master planned/zoned with the:

- Appropriate intersection types adjoining schools*
- Appropriate land use types adjoining each other*
- Appropriate connectivity between residential catchments & the schools & other destination nodes*
- Logical, coherent and safe shared pathway systems.*

It would be far more beneficial to all stakeholders if State (Landcom, Department of Education & Communities, etc) & Local Government agencies as well as major developers worked together rather than imposing requirements on others or the communities.

6. Our Road Safety Officers (RSO) & Local Traffic Committees apply considerable resources to school areas, especially where the Principals or P & C organisations request traffic facilities or improvements that should have been originally provided with the school.

With the RSOs dedicating a significant amount of resources to school areas, should the NSW Department of Education & Communities contribute towards the funding of the RSOs?

7. It should be mandatory for Road Safety Audits to be carried out for all school sites (new & existing).

Transport NSW (Centre for Road Safety) is, I believe, reviewing the intervention requirements for Road Safety Audits & they should consider the schools issue.

8. Recently we have experienced a number of issues relating to disabled children, staff & visitors to schools. If the only disabled parking facility is occupied by a staff member

there are no provisions for visitors or any students. This clearly a safety issue as there can be need for a number of disabled spaces & if not access will be attempted at the best & most appropriate location, irrespective of implications.

9. We have a dead end street in one of our suburbs that has three (3) schools. Two are public schools & one non-public. Three schools that adjoin each other creates a significant traffic, parking, road safety & congestion problems as the dead end street is linked to the Pacific Highway at a signalised intersection.

It should be ensured that this does not occur again or if there are no options then alternate accesses are to be provided to minimise the above issues & reduce road safety issues.

10. Newly installed School Safety zones should include the provision of solar supplied flashing 40 km/h school speed zones with all the other required signage & pavement marking.

Other relevant comments included:

- Provide adequate on-site parking for teachers and in high schools for senior pupils*
- All new school developments must provide on-site bus bay areas and parent drop off/pick-up zones*
- Deter any new developments near major roads*
- Existing schools should have pedestrian fencing along all road frontages with No Stopping zones alongside the fencing – no amount of education and awareness will stop children and especially parents from crossing the road inappropriately – the only way is to funnel them from school gate to the pedestrian crossing via pedestrian fencing. The pedestrian fencing should funded other than a grant funding situation that places extra burden on local govt to fund and implement – it's a state govt RTA and Dept Ed funding issue.*
- Shared paths linkages to schools a must to encourage walking and cycling – provided the school has been located appropriately (eg not a high speed by-pass road/highway)*
- Installing yellow flashing lights adjacent to crossings on local roads are considered to be a relatively low-cost way of increasing driver awareness of a crossing. The installation of traffic signals involves significant capital expenditure and recurrent maintenance costs compared to flashing lights. It would appear difficult to justify the high cost associated with providing traffic signals at some sites particularly when they may only be used during relatively short periods in the morning and afternoon on school days.*

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;

Members views were:

One has to weigh up the benefits of the single speed approach school zone compared to the effectiveness of modifying zones based on existing infrastructure and the cost benefit of such proposals. In my opinion the most effective method of implementing school safety is a uniform speed limit for all schools and an educational awareness program aimed at both motorist and school students. There also needs to be the development of infrastructure to support these campaigns which includes the treatments currently being used at the moment ie. Dragon's teeth and speed restriction zones. A standardised approach is the most appropriate strategy. The case of too many zones causes confusion. Anecdotal evidence demonstrates that the use of deterrents through enforcement is also a successful countermeasure.

And:

Single speed zones plus a combination of the various treatments are an appropriate strategy to improve safety around schools. A standardised single speed zone eg. 40kmph for all schools throughout NSW under a uniform approach would seem to be the most effective strategy.

And:

Obviously all measures can be improved however the current strategy of using various treatments coupled with an educational campaign aimed at both drivers and pedestrians is the most effective. The instances of school safety zone incidents are negligible in relation to the overall pedestrian incidents.

And:

- *The current guidelines for school crossings mean that there are some cul de sacs which required signs and patches, but other higher volume roads which are not eligible for school zones because there is no school frontage. There is one example in this area of a main arterial road that children cross about 50metres from the school - and yet it is 50kph road.*
- *Many schools request flashing lights for school zones. Our speed counts show that in a typical school zone there is about 75% compliance with the speed limit with a courtesy speed check. There is some confusion about when the school zone applies given that holidays differ between schools.*

And:

- *Do not see practicalities of having a 40km/h school zone on a road where there is no access to the school eg. North Nowra is an example 100m+ school zone and no children, no school access, no crossing, just a school boundary – slows traffic on highway for no reason.*

This latter point draws attention to the need for further investigation of existing facilities which may be giving rise to other road safety issues. It may be appropriate to carry out road safety audits of existing facilities over a period of time.

f) The availability and effectiveness of current road safety education programs in NSW schools;

Members views were:

These programs are currently conducted right through from Kindergarten to Year 10 and road safety is a valuable and integral part of the school's curriculum. Its effectiveness can be demonstrated by the high profile awareness campaigns that are aimed at both the motorist and child. The road safety programs in the syllabus offers an integrated and proactive way for children to learn the value of safety around schools. Research shows that message and themes about the risks faced and how to be a safer pedestrian are widely recalled by students.

There are insufficient DET road safety consultants to adequately service NSW state schools. More funding is required to provide minimally one consultant per DET region. This reduction of human resources has led to road safety education being a neglected area of the PHPDE syllabus.

An example of the excellent work being done by Road Safety Officers across NSW is captured in a project developed and implemented by Dungog Shire Council in conjunction with local schools. The project titled Speed Radar School Safety Project was submitted to IPWEA (NSW) as part of its annual Awards Programme. This project produced measurable safety result in the Council area. A copy of the project summary is attached to this submission.

g) Any other related matters.

A full scale evaluation process of the school safety program would be important to assess the current effectiveness of the program and identify issues that could result in the improvement of the program.

Other comments from members included:

- *Speeding in school zones remains problematic. The installation of more wombat crossings on suitable roads should ameliorate this issue.*
- *It seems that many parents rely on school teachers to educate their children on road safety. A large-scale public education campaign could remind parents and carers that they are primarily responsible for their children's road safety education. Sadly children are often driven from A to B and lack the opportunity to practise interacting with traffic when out walking with supervising adults.*
- *There is also a need for increased parent education regarding*
 1. *the correct usage of drop-off & pick-up zones*
 2. *parking signage*
 3. *awareness of the significance of gazetted school days in relation to school zone legislation.*

- *More widespread community education is needed regarding*
 1. *the vulnerability of children in the traffic environment*
 2. *school zone driving and parking penalties & fines*
 3. *explanation of commonly occurring signage & the need for parking restrictions & self enforcement.*

ACKNOWLEDGEMENTS

The contributions of the Road Safety Officers and Traffic Engineers from the following Councils in developing this submission are acknowledged:

- Coffs Harbour City Council
- Eurobodalla Shire Council
- Port Macquarie – Hastings Council
- Waverley Council
- Wyong Shire Council

CONCLUSION

Road safety practitioners in local government have raised a number of important issues into the provision and effectiveness of road safety facilities providing access to schools across NSW. These comments are summarised in the following points:

1. Anecdotal evidence suggests that the increase in the number of School Zones has resulted in a reduction of both pedestrian and vehicle incidents adjacent to schools.
2. Despite the introduction of additional School Zones, excessive speed, lack of awareness of road rules, the unpredictable behaviour of students and inappropriate parking in restricted zones by parents and carers are the major factors contributing to a lack of pedestrian safety adjacent to schools.
3. There is a need for increased education of both motorists and children.
4. There is a need for a commitment to road safety by both schools and the Education Department in developing all future school building projects. Local Government does not have the funds to carry out school road safety works alone.
5. The Road Safety Officers Programme which is a collaboration between the Roads and Traffic Authority and Local Government needs to be reinforced and extended as a matter of urgency.

IPWEA (NSW) and the Roads & Transport Directorate appreciate this opportunity to have input into the deliberations of the Staysafe Committee and would value any opportunity to provide any additional details arising from the above submission.

For further information in relation to the submission please do not hesitate to contact the undersigned on:



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Attachment: Dungog Speed Radar Project.pdf