Submission

No 24

INQUIRY INTO SCHOOL ZONE SAFETY

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SPAI
Safety & Policy Analysis International

Greg Aplin MP
Chairman
STAYSAFE Committee
Parliament House
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Sydney NSW 2000

Dear Chairman,

I am pleased to provide a submission from Safety and Policy Analysis International concerning the inquiry into NSW School Zones.

I look forward to the results of your deliberations on the issues to be reviewed in the inquiry.

Yours sincerely,

Ian Faulks
Safety and Policy Analysis International

12 October 2011

Safety and Policy Analysis International

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MEMORANDUM

STAYSAFE Committee inquiry into NSW school zones

Preamble

1. This submission is provided to the first STAYSAFE Committee inquiry of the 54th parliament, under the terms of reference:

> That the Committee inquire into NSW school zones to determine whether current measures are effective and/or what else can be done to optimise safety for students and simplify school zones for motorists, with particular reference to:
> a) The effectiveness of school zones in reducing pedestrian casualties during school zone times;
> b) The major contributing factors to pedestrian casualties in school zones;
> c) Age as a factor in pedestrian crash risk and the major contributing factors for casualties by age cohort around school zones;
> d) The deployment of alternative facilities to reduce reliance on school zones, such as grade separation, traffic lights and fencing;
> 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;
> f) The availability and effectiveness of current road safety education programs in NSW schools; and
> g) Any other related matters.

I note that the inquiry stems from a referral from the Minister for Roads and Ports to conduct an inquiry into school zone safety (Proceedings of the NSW Legislative Assembly, Tuesday 6 September 2011, at page 35).

2. I have noted the associated news stories:

> NSW to review 40km speed zones outside schools to see whether traffic lights and road bridges would help stop accidents
> Barclay Crawford, Sunday Telegraph, Sunday September 04, 2011 12:00AM
> THE NSW government will conduct a review of 40km speed zones outside schools and investigate whether traffic lights and road bridges would be more effective at stopping accidents. Roads Minister Duncan Gay wants to investigate whether a "single, speed-based approach" to road safety outside schools has actually reduced casualties outside schools, The Sunday Telegraph has learned. The review follows the government's earlier audit of fixed speed cameras, which found 38 out of 141 had no significant road safety benefit. In July, Mr Gay ordered the cameras to be turned off. Mr Gay is particularly concerned about the 40km zones in non-metropolitan areas. The parliamentary Stay Safe Committee, headed by MP Greg Aplin, will conduct the review, which is set to be announced tomorrow. Mr Aplin said the committee would look at all aspects of safety. He said some 40km zones could be abandoned. He said: "It is a possibility where there are absolute safety

measures which control the movements of students. "Questions will be asked about whether a 40km, one-sized approach is the best for safety. We will be looking at measures that can enhance safety but ensure traffic continues to move smoothly." The committee will report to the minister by the end of the month after taking submissions from safety experts and school groups. The zones were introduced in 1998 and operate between 8am and 9.30am and from 2.30pm to 4pm on school days. Motorists face heavy fines and loss of points if they are caught driving at more than 40km/h. Since the zones were introduced, only two children have been killed outside of schools. There are now 10,000 zones across the State, which earn the government about $60 million each year. Critics say police catch three times the number of drivers during school holidays because they assume the cameras are off.

and

40km/h 'everywhere'

Brad Worrall, Border Mail (Albury), Monday 05 Sep, 2011 07:37 AM

BORDER parents could end up getting an education of their own over school speed zones. Member for Albury Greg Aplin said the poor example set by some parents of primary school children at North Albury could in turn be the catalyst for change across NSW. He said parents, parked on the opposite side of the road, call to the children to cross the busy four-lane, former highway of Mate Street at the end of the school day. Mr Aplin will chair a bi-partisan parliamentary inquiry into the effectiveness of the present “one-size fits all” approach to the 40km/h zones and whether in some instances they are needed at all. He highlighted the actions of the Albury parents as an example of the need for change. “I’m told that parents park on the other side of Mate Street, what was the highway, across the road from the primary school and call their children across,” he said. “That is just so dangerous, these are primary school-aged children crossing a four-lane road. “Part of this review may see us recommend that the parents be educated in road safety around schools. “We might recommend that fences be erected on the median strip to deter parents in similar situations.” Mr Aplin will today call on peak organisations to make submissions to the bipartisan NSW Parliamentary School Zone Safety inquiry. He said there were some examples that question the need for the 40km/h zone. “We need to look at ... whether there are things like overhead pedestrian bridges and traffic lights that are an effective safety measure and negate the need for a 40km/h zone,” he said. Submissions to the inquiry will close at the end of the month. “In our own area we have Lowesdale on the Riverina Highway where truck drivers tell me there is a service road that is used by parents of the school children and yet they still have to slow down to 40km/h. “These are just examples and there are no recommendations on the table or a pre-defined direction for the inquiry. “We are going to have a look at how effective these 40km/h zones are and whether it is applicable in all circumstances.” The inquiry’s terms of reference include the effectiveness of school zones in reducing pedestrian casualties; the major contributing factors to pedestrian casualties in school zones; age as a risk factor around school zones; options to reduce reliance on school zones; and whether a single approach school zone regime works. Mr Aplin hopes to start hearings next month.

Introductory remarks

3. I draw the attention of the Committee to the work of a previous STAYSAFE Committee, under the chairmanship of the Hon. Grant McBride MP over 2000-2002 STAYSAFE 53 - Part 1 (2001), STAYSAFE 53 - Part 2 (2002), STAYSAFE 53 - Part 3 (2002, in 5 Volumes), STAYSAFE 53 - Part 4 (2002). This Committee examined school travel safety, looking at traffic and related issues within the immediate precinct of the school (i.e., roads outside the school fence and immediate adjoining areas). The reason for the inquiry was widespread school community concern about road safety issues in and around schools, which had been bubbling away for some time. Indeed, some traffic committees in local councils indicated that more than 50% of issues raised relate to school safety issues. The inquiry examined (i) the kinds of problems that schools may face as a result of their location on NSW roads; (ii) the range of traffic facilities that can be used outside schools; (iii) the guidelines and standards for these facilities; (iv) the mechanisms for review of these facilities; (v) how the criteria for installation of these facilities were developed; (vi) what alternative criteria might be applicable in determining what traffic facilities are to be used outside schools; (vii) the traffic law applying outside schools; (viii) any inconsistencies between traffic laws and traffic management policies outside schools (ix) other relevant matters as they arose. This inquiry was the largest even conducted by any STAYSAFE Committee over the past three decades, with hundreds of submissions received, public hearings and inspections throughout New South Wales, in metropolitan Sydney, and in a number of regional areas, including mid North Coast, Shoalhaven, South Coast, Riverina, Central West, Northern Tablelands, far North Coast, the Hunter, and the Central Coast, and testimony from more than two hundred witnesses, not only from the major Government agencies and the major lobby groups advocating for improved traffic control and safety around schools but including representatives of schools, Parents & Citizens Associations, Parents & Friends Associations, or school councils, local councils, including many road safety officers, and members of Parliament. In addition, during inspections of school sites and transport facilities, the Committee received briefings from teachers, parents, and community representatives. The approach was a 'bottom up' inquiry, talking to the community first and the funders and providers later. This caused some concern amongst the lead stakeholders for road safety in New South Wales, who indicated that they feel the inquiry process should have seen the experts giving evidence first, in order to inform and guide STAYSAFE as to the essential issues in the inquiry and to avoid complications associated with taking testimony from uninformed members of the community. The Committee found, however, that first speaking to a wide cross-section of the community gave an insight into the nature of the problems faced in addressing traffic control and safety around schools, and the possible areas where solutions might be applied effectively, that would not have been obtained from expert testimony and the opinions of advocacy organisations alone.

4. More than 100 different issues were raised in the submissions received (see STAYSAFE 53 – Part 4, 2002) and testimony from witnesses (see STAYSAFE 53 - Part 3, 2002; in 5 Volumes). While some were quite specific to a school or local community, most were of general import to all schools and school sectors (government schools,

systemic Catholic schools, and independent schools). Some of the issues raised that remain germane to the current inquiry by the STAYSAFE Committee in 2011 include:

- Location and design of schools, e.g., split site schools and schools located on major roads;
- Inappropriate behaviour by parents when dropping off or picking up children;
- The effectiveness of various road safety programs and strategies: such as the role of school crossing supervisors, responsibilities of school staff, 40 km/h school speed zones;
- School areas as complex traffic zones;
- Parking around schools;
- Community concerns and need for effective advocacy;
- The Safer Routes to School program to include infrastructure funding;
- Bureaucratic issues - delays, lack of audits of facilities, funding problems, inappropriate warrants, unclear lines of responsibility;
- Street design for road safety around schools - footpaths, wombat crossings, blisters (kerb extensions) and chicanes, banning U-turns outside schools, bus bays, streets outside schools for one-way traffic, flashing amber lights;
- Wider access to the Subsidised School Travel Scheme (SSTS); and
- Effects of demographic changes, and urban and commercial development on traffic volumes on roads outside schools.

5. There were a large number of recommendations for action arising from this inquiry (see STAYSAFE 53 - Part 1 (2001), STAYSAFE 53 - Part 2 (2002). . Some of the more important of the findings related to:

- A Safer Routes to School program
- School areas as complex traffic zones (educational clusters or precincts)
- Data relating to school-related travel
- School speed zones
- Role and function of local traffic committees
- Interagency issues
- Enforcement
- Impact of subsequent development of communities
- Impact of school development

6. The STAYSAFE Committee found that a safer routes to school program is a positive educational and community development strategy which can be highly successful in involving the whole community in identifying road safety needs around schools. A safer routes to school program enables effective solutions to individual school problems to be identified. However, in New South Wales there is a need to integrate infrastructure and engineering component into the safer routes to school program (e.g., a specific schools-based version of the pedestrian access and mobility program, or PAMP). The development of digital technologies now allows for the development of individual “safe travel to school” solutions that can be negotiated with students and their parents or carers. A Safe Routes to School program provides school-based projects that identify safe routes between students’ homes and their schools. As shown in approaches adopted overseas, a

properly considered and constructed Safe Routes to Schools program brings together education, transportation, and public health professionals, parents, and students to develop projects to promote walking, biking and the use of public and other transportation to and from schools. These projects can include the identification of needed "on the ground" infrastructure improvements, as well as the development of education programs and the establishment of local support organisations within communities. These interactions between stakeholders and the public allow for experiences regarding safe travel that extend beyond those who might “normally” engage in the transport and road safety planning processes. It is recognised that this can be challenging, resource intensive, and time consuming, but there are wider benefits to the community generally, and to the safe of school children specifically, that will result from these consultations and interactions. To promote these consultations and interactions, there is a need for a synthesis be produced that documents the means and mechanisms, and the strategies involved, for public participation in the development of Safe Routes to Schools projects for schools across New South Wales.

7. Many schools are located close to other schools, often on the same street. These school precincts or clusters should be viewed as complex traffic areas, not as isolated institutions, and traffic solutions should be developed for the whole of the precinct that reflects the needs of the cluster of educational services within the precinct. The presence of other institutions such as TAFE Colleges, preschools and child care centres, shopping centres, old age homes, necessitates a more inclusive strategic approach. Some notable examples of these complex school areas are: the Carlingford precinct (Carlingford HS, St. Gerard's PS, Roselea PS, and a preschool); the Wagga Wagga precinct (Trinity Senior HS, Wagga Wagga Technology HS, Mt Erin HS, Riverina TAFE College, and a preschool); the Lake Munmorah precinct (Lake Munmorah PS, Lake Munmorah HS, and St Brendan’s PS) ; and the East Gosford precinct (St Patrick’s PS, East Gosford PS, St Joseph’s HS, St Edwards Girls HS, and a preschool).

8. Official data concerning school-related travel is weighted towards counts of vehicle movements, reported vehicle crashes, and reported injuries (e.g., used in establishing the criteria in warrants for traffic facilities), rather than the movements of school children to and from schools. There is community concern that someone has to be killed or badly hurt before any new traffic facilities at schools will be approved. In fact, there is no formal mechanism used by roads authorities in New South Wales for assessing risky situations or for documenting ‘near miss’ incidents. School communities want risky situations and ‘near miss’ incidents to be included as components in assessments of safety. A formal mechanism for assessing risky situations and for documenting ‘near miss’ incidents must be developed as part of a suite of measures to determine the traffic control and safety features of a school or school precinct.

9. In the past, there have been inconsistencies of application of 40 km/h speed zones: some schools had them, some schools did not; there were 50km/h zones in school zones in rural areas; and had been a past refusal to place 40 km/h speed limits on highways and major roads. There can also be close juxtaposition of speed signage (e.g., 40km/h and 50 km/h within metres), and confusion about times of application of school zones. One of

the strongest of the recommendations by the STAYSAFE Committee in 2001 and 2002 was for the adoption of a uniform 40 km/h school zones applying across New South Wales, applied on a cluster or precinct basis, and for clear indications to motorists and the community that the school speed zone was in operation through flashing lights and pavement markings. This has been done. It should not be reversed.

10. More generally, assessment of traffic control impacts in the vicinity of a school should be a core feature of any development or re-development of a school site; there should be better access for the community to the Roads and Traffic Authority's guidelines for traffic facilities (e.g., criteria for warrants, etc., to be accessible to community via Internet, etc.); there is a need for the establishment for an independent review mechanism for decisions by the Roads and Traffic Authority or traffic committees; and there needs to be an establishment of an adequate mechanism to give feedback to school communities regarding proposals for change to traffic facilities - reasons why a particular decision was taken, what will happen next, etc.. Interagency cooperation between the main stakeholders in the process of road safety around schools can be lacking. Unfortunately, agencies that review applications for implementation of road safety strategies, those who make the decisions, and those who fund them, are not led by clear and consistent policies and plans that bind them at an interagency level. There is a need for flexibility in policy to take into consideration broader characteristics of school area: geographical, demographic, economic and social characteristics (e.g., difference between rural and metropolitan areas); while maintaining a core focus on the safety of travel for school children.

11. Common traffic violations observed around schools include: exceeding 40 km/h school zone, parking across pedestrian crossings, non-compliance with provisions of a childrens' crossing, infringement of No Stopping and No Parking areas, driving through restricted bus zones around buses discharging students, double parking, non-use of child restraint offences, and use of mobile phones offences. There is a need to look at enforcement in an integrative manner, assessing relevant factors such as lack of police and local council enforcement resources, inappropriate education of drivers (particularly parents), and street design issues (lack of speed control devices, confusing signage), etc.. Some measures to address these illegal behaviours could include: clarification of enforcement protocols by police and local councils; targeted media campaigns to raise driver and parent awareness (e.g., regarding correct use of No Stopping and No Parking zones, or education about child restraint laws); a new offence targeting parents and carers who call a primary school-aged child to cross a road unescorted; appropriate signage around schools to be installed whenever possible to warn drivers about school zones and alternative routes (e.g., 'cockatoo' or flashing lights, electronic speed advisory signage); increased use of 'kiss and ride' parking zones and encouragement of the Stay Safe Ranger civics and safety program; use of physical barriers (e.g., raised kerbing) to delineate No Stopping zones; use of physical road way barriers such as roundabouts, platforms and speed humps, and chicanes to allow better compliance with speed zones by motorists.

12. Historical changes in traffic flows, traffic volume, traffic mix - as a result of community growth - can impact on the safety of travel by school children. As well, there can be an impact from residential, commercial and industrial developments on traffic control around schools (even when they are at some distance from the school). Some measures that can be taken include: the development of audit process to detect changes in traffic flow, mix and volume affecting schools, and to identify appropriate remedial measures (e.g., re-routing of traffic flows into one-way streets, relocation of school entrances away from the major road, relocation of school to another site); for new developments, an assessment of traffic generating impacts on schools on major routes to the development precinct. Often the redevelopment of existing school sites does not include an assessment of the current traffic control environment around the school. There is also concern that redevelopment of existing school sites does not require any equivalent contribution towards refurbishment of traffic facilities around the school site and/or more distance travel routes to school. Non-Government schools can be required to make contributions for new (greenfield) developments, but Government school developments are exempt – this limits the traffic control facility provision that can be made. Policies such as 'out of zone' schooling and the development of collegiate high schools have had a major impact on amount and mode of school-related travel (no longer local travel to local schools, increased use of buses, private vehicles). As noted, one problem, in particular, is posed by significant number of schools located with frontages directly on major roads - there should be a policy change to allow and promote on-site school traffic movements (e.g., drop off and pick up points, parents parking, etc.), and a program to provide for school entrances to be moved to street frontages away from major roads.

13. School zones are an "application of Vision Zero", the more complete version of the Safe System approach adopted for road safety policy in New South Wales. That is, the measures to be effected for traffic control and safety around school zones are designed to limit (and hopefully, eliminate) the risks of a road crash that results in either a death of a school child or the causing of a lifelong disability to a school child. The policies and approach that were adopted by the STAYSAFE Committee its reports in 2001-2002 are derived, in great measure, from the principles enunciated by an earlier STAYSAFE Committee chaired by the Hon. Brad Hazzard MP relating to an inquiry and report into school child pedestrian safety around buses (STAYSAFE 26, 1994). In fact, the New South Wales Parliament's STAYSAFE committee inquiries into the safety of school children as pedestrians around buses (STAYSAFE 26, 1994)] and into traffic control and safety around schools (see the STAYSAFE 53 reports, 2001-2002) are a significant milestones in the development of a Safe System approach to addressing road trauma and improving safety within Australia's road transport system. A feature of these reports is that the Staysafe Committees involved recommended implementation of a safety system or integrated package of counter measures to reduce child pedestrian trauma, strongly advocating for the integration of vehicle, roadside and behavioural issues. In the report into the safety of school children around buses, the committee stated that it was unacceptable that any children should die simply because they were travelling to and from school, and efforts should be taken to address the issue. I later referred to that statement by the committee as an 'accidental' application of Vision Zero principles - a

road safety philosophy that was developed in Scandinavia in the early 1990s and which is now a formal policy in Australia under the moniker of the Safe System approach (Faulks (2000). A Safe System advocates a systematic review of the road safety network to provide that no one should die or suffer a lifelong disabling injury simply because they wish to use the roads, and is a radical change from the traditional cost-benefit, and target-seeking approach that was in vogue in the 1980s and 1990s.

14. Many of the issues associated with safer travel to schools relates to the wider policy issues associated with travel behaviour. The issues here relate to transportation planning more than questions of road safety, and include car ownership, time-dependent utility in activity and travel choice behavior, activity choices, attitudes and decision making in road route choice, etc.. As well, household sociodemographics, lifestyles, and the built environment impact on travel behavior; mode choice for work trips is important, as are traffic demand price elasticities. On a larger and longer scale, factors that impact on school travel safety are likely to influenced by State and national decisions relating to the management of travel and access to roads (i.e, road pricing and other taxation issues), as well as climate change initiatives (e.g., dealing with greenhouse gas emissions).

15. As well, many of the issues associated with safer travel to schools relates to the wider policy issues associated healthy lifestyles, including the promotion of activity and fitness in children. The development of safer travel to school programs allows the promotion of such concepts as ped sheds and bike sheds (i.e., the collection areas for pedestrian and cyclist trip activity to and from the school as an attractor).

The heads of inquiry

16. I will now comment briefly on the heads of inquiry for this current investigation by the STAYSAFE Committee into New South Wales school zones. Virtually all school children are, either regularly or from time to time, exposed to road safety dangers during travel to or from school. This exposure may be for only short periods as they are dropped off or picked up by their parents at the school, it may involve the entire journey to or from school and home as pedestrians or cyclists, or it may involve pedestrian activities that are associated with the use of public transport such as trains or buses. The signs, markings and signals used to indicate the presence or likely presence of school child pedestrians at the roadside should be sufficiently consistent and reliable so that motorists nearing a school or a school bus will have no doubt that school child pedestrians are present and that appropriate and timely precautionary actions should be taken to avoid any potential collision. The basic task that is faced, therefore, is to develop a system of law, policy and procedures that results in changes to the behaviour of a motorist nearing the location where a school child is present, as well as changes to the behaviour of a school child on or alongside the road. Certainly, the parents of the child, the school, the local council, and others (such as a bus driver and a bus operator) have roles to play in ensuring that the safety of school child pedestrians is maximised, but the critical elements in school child pedestrian crashes are the child and the motorist in pedestrian-vehicle collisions. The Australasian College of Road Safety's fact

sheet on Safe System approach identifies that countermeasures that are consistent with a Safe System approach can be found, in particular, in measures to address speed

> "reduced speed limits where high numbers of vulnerable road users can be expected (for example, shopping areas and school zones) . . ." (p.1)

17. Are current measures used in NSW school zones effective and/or what else can be done to optimise safety for students and simplify school zones for motorists?

The STAYSAFE Committee is referred to the past inquiries by earlier committees, including the STAYSAFE 26 (1994) report and the various reports under STAYSAFE 53 (2000-2002). These inquiries addressed school child safety around schools, and *de facto* around school buses. The major initiatives from these include uniform 40 km/h school zones outside New South Wales schools, and clear and unique signage and road marking to identify school zones. There is, however, a need to better address parking issues outside school, including a more widespread adoption of the Stay Safe Rangers civics and road safety program, and better management of Kiss and Ride zones as a parking measure.

18. Are NSW school zones effective in reducing pedestrian casualties during school zone times?

The adoption of 40 km/h speed limits outside schools has reduced pedestrian injury. Simply put, the major countermeasure that is widely and generally available in situations where a risk of injury is likely to a school child pedestrian is lower vehicle speed. This allows more time for observation by a driver, more time for reaction and braking by a driver when the situation demands. In situations where an impact with a school child pedestrian does occur, the physics underpinning of injury mechanisms to human bodies means that lower speeds at the time an incident is caused results in less impact speed and force transferred to the child pedestrian, with the likelihood of less injury resulting.

19. What are the major contributing factors to pedestrian casualties in school zones?

The major contributing factors to pedestrian casualties in school zones are vehicle speed, the aggressivity of vehicles (e.g., bull bars, high bumper heights, etc.), the complexity of the traffic environment, driver inattention and distraction, pedestrian inattention and distraction, and a number of characteristics of child pedestrians (small size, inexperience in traffic, cognitive and developmental limitations).

20. Age as a factor in pedestrian crash risk and the major contributing factors for casualties by age cohort around school zones?

Age is a factor in pedestrian crashes, not only for infants, children and young people but for adults and older people. However, there are a number of characteristics of child pedestrians (small size, inexperience in traffic, cognitive and developmental limitations) that are specifically contributory. There is a very large literature that addresses this issue, and more research information becomes available every year. To cite just one recent example, a recent paper by John Wann and his colleagues from Department of Psychology, Royal Holloway, University of London, found that reduced sensitivity to visual looming inflates the risk posed by speeding vehicles when children try to cross the road. We respond to visual looming or to discrete changes in optical size, as the need to

detect and process looming is critically important for humans in everyday life. Road trauma statistics confirm that children up to 15 years old are overrepresented in pedestrian casualties. In this paper, Wann and his colleagues demonstrate that, for a given pedestrian crossing time, vehicles traveling faster loom less than slower vehicles, which creates a dangerous illusion in which faster vehicles may be perceived as not approaching. There are strong developmental trends in sensitivity, such that children may not be able to detect vehicles approaching at speeds in excess of 32 km/h (20 mph). Wann and his colleagues warn that this creates increased risk when children attempt to cross roads where the traffic speeds are higher than 32 km/h. Based on the findings of this paper, lower urban speed limits are recommended for residential locations, and should perhaps be considered outside primary schools in New South Wales, that is, a 30 km/h speed limit. I note that this head of inquiry may be aimed at the issue of whether 40 km/h school zones are justifiable around high schools. There are several points I wish to note if this is the case. First, many schools – both primary and high schools – are located adjacent or close together, and form what the STAYSAFE 53 reports in 2001-2002 identified as a precinct or a cluster. These must be managed as a whole, not as individual and separate school locations. Second, high schools include many students who are novice drivers (aged 16 years and above, as learner drivers or as provisional P1 drivers, in the main) who engage in driving to and from school, and as these drivers are inexperienced in the complex and busy traffic environments around schools, a 40 km/h low speed limit outside schools is indicated. Finally, as indicated by the paper by Wann and his colleagues discussed earlier, the cognitive and development issues associated with pedestrian behaviour in recognising vehicle speeds are not resolved until mid to late teens, well into the years of high school.

21. <u>The deployment of alternative facilities to reduce reliance on school zones, such as grade separation, traffic lights and fencing?</u>

Current research work undertaken by the Psychology of Driving Group in the Department of Psychology, Macquarie University, on factors affecting speeding in 40 km/h school zones in New South Wales confirms that aspects of the road environment affecting speed compliance in a school zone include presence of traffic calming measures, shorter lengths of school zone, and increased traffic flows. Driver and vehicle factors have no consistent influence on speed limit compliance. However, it is the warning signal which visually 'pops out' to drivers and is active only during school zone periods that appears to lead to improved compliance and a reduction in speeds when entering school zones. In this study, the management of vehicle speeds within school zones in NSW was examined, using covert naturalistic studies of driver behaviour. Approximately 70.0% of all vehicles entering school zones during the morning school zone period exceeded the 40km/h school zone limit, while 47.6% of vehicles exiting the zone exceeded the limit. During the afternoon school zone period, 78.8% of the vehicles entering and 75.4% of those exiting school zones exceeded the reduced 40km/h school zone limit. Both male and female drivers enter and exit school zones faster in the afternoons than in the mornings. A flashing sign is more salient in reducing drivers' speeds on entry into school zones, and there is no difference between an RTA regulatory sign (yellow lights with red annulus around the 40 km/h numeral) and the privately installed Peter Olsen flashing signs (yellow strobe light off the roadway).

22. 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?

It is unclear what is meant by "single approach school zone regime", but I have interpreted this to mean that different approaches could be considered and taken across localities and regions of NSW. The continued use of a uniform school zone approach throughout New South Wales is recommended. To adopt different school speed zones across regions, for example, would lead to the risks and the uncertainties that were present prior to the STAYSAFE Committee investigations over 2000-2002, and would be reversal of appropriate and consistent policy. That said, continued experiment and development of school zones to improve safety should not be prevented – for example, the Stay Safe Ranger program that links civics with road safety is strongly supported.

23. The availability and effectiveness of current road safety education programs in NSW schools

New South Wales schools benefit from the availability of well developed syllabus to support road safety education programs from pre-school through to Year 12. There are some problems, however. There is no audit or monitoring mechanism that allows for an assessment of how these road safety education materials are being used within schools. There is a problem in that there is "over protection" of the school materials, typically these materials are not readily available to other road safety workers, parents, etc.. Another issue is that the NSW Centre for Road Safety does not, for example, list "Road safety education" as a topic area or theme on its website. The topic area of "Children", has "School road safety" subsection. "Bicycles" doesn't include a riding to school subsection, and doesn't mention the Community and Road Education Scheme, CARES (CARES subsection was removed in 2010). (see http://www.rta.nsw.gov.au/roadsafety/). The Kids and Traffic website (http://www.kidsandtraffic.mq.edu.au/) addresses some aspects of school safety, and school bus travel safety.

24. Any other related matters: Road injuries and statistical modelling

Recently, Anderson (2011) has shown that predicting road fatalities is subject to considerable variance, with actual numbers (and shorter term trends) deviating significantly from what may be modeled or expected. He noted that, for South Australia, the significant contribution to a lowered road toll over the past decade was lowering urban speed limits. The new South Wales approach of implementing 40 km/h speed limits around all schools, together with 40 km/h speed limits around buses stopped to pick up or disembark school children and the adoption of a general urban speed limit of 50 km/h across New South Wales, are measures that underpin the major reductions in road trauma over the past decade.

25. Any other related matters: Avoiding the "politics of spin"

The Liberal-Nationals Coalition government, elected with a massive majority in early 2011, has the prospect of governing until 2023 at the earliest, and likely to 2027 or beyond (based on the political experience and the electoral outcomes since NSW adopted fixed 4-year terms of parliament in 1991). This allows for the opportunity to move away

from the "politics of spin" that have dictated tactics for a perceived short term political gain over longer term strategies that addressed the future of the New South Wales community. The program to manage school travel safety provides a means to address road safety issues (and more general issues associated with the road transport system) in local communities, allowing for improvements in understanding about lower speeds and reductions in risk of injury, or addressing issues of transport and heath through the example of the benefits and costs associated with school travel as a pedestrian, cyclist or a passenger in a private vehicle. In short, as my colleague Merv Lane and I commented over a decade ago in a keynote paper on the development of road safety strategies, have the courage and commitment to pursue a safer road transport system (Lane & Faulks, 1997).

26. Any other related matters: Stay Safe Rangers – a primary school civics lesson in road safety

Since 2006, the Stay Safe Rangers program has proven a sustainable and adaptable program to manage parking outside schools, operating primarily as a civics program that delivers road safety benefits. The program has proven to make a positive impact on educating students in years 4, 5 and 6 on road safety risks, not only around their school but also in general within the road transport system; as well as an impact on awareness for the school community, particularly regarding the laws around Kiss & Drop zones. The Stay Safe Rangers program has brought about a dialogue about road dangers in the school and at home. The program allows safety issues to be addressed at a relevant and understandable cognitive level that students from Kindergarten to year 6 can engage in with family, friends and their teachers. The program has delivered a strong student leadership tier and has born many school leaders over the years.

27. Any other related matters: "Pupil-free" days and gazetted school days

If there is one particular issue that irks the community, it is the policy of enforcing school zone speed limits and parking restrictions on "pupil-free" school days. Simply put, this policy is ridiculous. Nominated "pupil-free days" should not be included as a gazetted school day. The rationale, as I understand it, comes from a stubborn bureaucratic insistence that a "pupil-free" day must be considered as a day when school children may be present, despite the remote likelihood that a child would be present in a school on a "pupil-free" day. This obstinancy regarding "pupil-free" days is, in my view, a particular contributor to the unfortunate perception that enforcement actions relating to school zones are "revenue raising".

28. Any other related matters: A wider focus of research

More integrated research is needed to understand the factors involved crashes involving school children in at and near schools, including environmental issues, population or epidemiological considerations, land use patterns, the location and siting of schools, roadway and traffic design characteristics, motorist and pedestrian behaviours, and other factors. There is a need for research projects that identify and analyze crash/conflict data to identify contributing factors, that review and synthesise the existing literature on crashes/conflicts and related treatments in and around school zones, and that assess best

practices for promoting pedestrian safety in the management of traffic movements at and near schools.

Concluding remarks

29. As a final comment, school zones are a traffic management structure that cuts across local and corridor management. If all schools (and their associated school zones) were located on local roads there would not be the tensions that arise between safety and mobility. However, many of the schools is New South Wales are legacy developments, that is, they were put in place when the road transport system was not as it is today, or they were put in place under design approaches that did not recognise the safety issues and the traffic management issues that we face today. Thus, many schools are located on major roads and highways, many schools are located in or close to shopping precincts and main streets. The management of the tension that arises between the need to put in place a safer road transport network and the demands for access and mobility will remain into the future, but in there is one clear statement I would make, it is do not go back on the advances made to improving our road transport system through lower speeds and better traffic management within school zones.

Some additional readings

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