PARLIAMENT OF NEW SOUTH WALES

Joint Standing Committee on Road Safety (Staysafe)

REPORT 1/55 – MARCH 2012

INQUIRY INTO SCHOOL ZONE SAFETY

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The motto of the coat of arms for the state of New South Wales is "Orta recens quam pura nites". It is written in Latin and means "newly risen, how brightly you shine".

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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.

Chair's Foreword

This Report on the Committee's Inquiry into School Zone Safety is the first Staysafe report tabled in the 55th Parliament. The Inquiry was initiated by the Minister for Roads and Ports, who was responding to concerns about the perceived lack of consistency in the current operation of school zones and the lack of clarity about the regulations governing their use.

The protection of vulnerable road users, particularly school aged children, has very high priority in the work of the Committee which has, over the years, conducted major reviews of pedestrian safety generally, as well as the safety of students in and around school precincts. The current Report provides a timely opportunity to examine the effectiveness of existing policies and to address criticisms surrounding school zone operations expressed by parents, motorists, road safety practitioners and members of the public.

School zones have been a resounding success overall. Crash injuries have declined dramatically since such zones were introduced twenty years ago and this has been of benefit to school children, their parents and carers, road safety authorities and the community generally. These benefits are not only represented by a reduction in physical casualties, but also in social and financial costs to all road users.

The Committee has found that there is still room for improvement in the way school zones are managed and has made a series of recommendations to improve the utilisation of road safety infrastructure and treatment selection, to enhance road safety education programs and to more effectively target road safety messages. In order to assist motorists, the Committee has made additional recommendations to standardise the operation of zones in existing school precincts as well as in future planning, within the context of greater adherence to the road rules.

With increased cooperation by government road safety agencies and broader dissemination of information to all road users about the benefits of school zones, combined with stricter enforcement of rules governing their operation, the Committee would like to build on gains already made and see the number of injuries and crash incidents further reduced. This can only be done in a true spirit of partnership by all who use and manage the road system.

I am pleased to present this Report and thank my fellow Committee Members and the Committee Secretariat for their contributions and assistance.

Greg Aplin MP
Chair

List of Findings and Recommendations

Glossary

AADT	Annual Average Daily Traffic
ARRB	Australian Road Research Board
BAC	Blood Alcohol Concentration
BCA	Building Code of Australia
DA	Development Application
DEC	Department of Education and Communities
DET	Department of Education and Training (now the Department of Education and Communities)
GPS	Global Positioning System
IPWEA	Institute of Public Works Engineering Australia
ISA	Intelligent Speed Adaptation
OECD	Organisation for Economic Co-operation and Development
PDHPE	Personal Development, Health and Physical Education
RMS	Roads and Maritime Services
RTA	Roads and Traffic Authority (now Roads and Maritime Services)
SCATS	Sydney Coordinated Adaptive Traffic System
SDRO	State Debt Recovery Office
SEPP	State Environmental Planning Policy
SZT	School Zone Times
WHO	World Health Organization

Chapter One – Introduction

BACKGROUND

1.1 On 11 August 2011, the Joint Standing Committee on Road Safety (Staysafe) received a request from the Minister for Roads and Ports, the Hon Duncan Gay MLC to conduct an inquiry into school zones.

1.2 The referral letter emphasised that: "School zone safety is a high priority for the NSW Government with significant funding provided to ensure the safety of children." The Committee was asked to investigate "… whether current measures are effective and or what else can be done to simplify school zones for motorists."

1.3 The importance of school zones was highlighted by the Minister who told the Committee that, "Over one million school students are enrolled in NSW primary and secondary schools across the State. Children are considered particularly vulnerable road users due to their physical size and developmental limitations."

1.4 Primary school and high school students face different risks while travelling to and from school. While younger students are physically smaller and less experienced in the traffic environment, older children are more prone to risk-taking behaviour due to peer pressure, are experimenting with their new found independence and can suffer from fatigue from new study pressures. All of these factors mean that young pedestrians require extra protection in the school traffic environment.

1.5 School zones were first introduced in 1992, resulting in around 10,000 school zones servicing over 3,150 schools in NSW by 2003. A 40km/hr speed limit is enforced on all roads providing access to a school.

1.6 School zones have further evolved to include additional restrictions to improve pedestrian safety and the imposition of higher penalties to ensure greater compliance. There have also been efforts to improve public awareness of the rules applying to school zones and their locations.

1.7 This Inquiry was conducted partly in response to concerns about the appropriateness of a single speed based approach to school zone safety management. Public criticism of this regime should also, however, take account of the deployment of other safety infrastructure at such locations.

1.8 The Committee has found that the current school zone regime has been very effective in reducing the number of casualties of school aged pedestrians. The number of injuries in active school zones has declined from 71 in 1996 to 44 in 2010, with two fatalities in the same period. While acknowledging the success of the current system, the Report also highlights areas where improvements can be made.

CONDUCT OF INQUIRY

1.9 On 26 August 2011, the Committee adopted the request from the Minister for Roads and Ports and commenced its inquiry, in the following terms:

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:

(h) The effectiveness of school zones in reducing pedestrian casualties during school zone times;

(i) The major contributing factors to pedestrian casualties in school zones;

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

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

(l) 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;

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

(n) Any other related matters.

1.10 The Committee called for submissions, advertising the Inquiry on the Parliament's website and in the local press and by writing to relevant organisations and road safety practitioners. The closing date for submissions to be lodged was 30 September 2011.

1.11 In total, the Committee received 27 submissions from private citizens, local governments, non-government organisations, academics and government agencies. A full list of the submissions received can be found at Appendix One and copies of the submissions are available on the Committee's website.

1.12 As part of the Inquiry, the Committee also held two full days of public hearings in Sydney on 16 November and 21 November 2011. The public hearings gave the Committee an opportunity to further explore some of the issues raised in submissions and to examine options for improving school zone safety. A full list of witnesses who appeared before the Committee can be found at Appendix Two. Transcripts of the evidence provided are available on the Committee's website.

Chapter Two – School Zone Effectiveness

2.1 The Staysafe Committee's long standing involvement in and investigation of issues affecting school aged road users has been reflected in past reviews of school zone safety in 1994, 1998 and 2001. The Committee's past inquiries have been partly responsible for driving legislative and regulatory changes to road safety policies and procedures in and around school precincts. These changes have resulted in the current regime governing the operation and management of school zones and have significantly improved student safety.

2.2 As previously discussed, this Inquiry provided an opportunity to assess the efficacy of the system currently in place and to further refine and build on changes already made.

RATIONALE FOR SCHOOL ZONES

2.3 School zones were first introduced in July 1992, on a selective basis at the request of a local school or school community. They were established in response to expressed safety concerns about the vulnerability of young students entering and leaving school grounds.

2.4 Local council traffic committees alerted the community to the risks involving pedestrians in school precincts resulting from their location on NSW roads. Initial school zone speed limits were set as follows:

- 60km/hr school zone – within 80, 90 and 100km/hr speed zones; and
- 40km/hr school zone – within 50, 60 and 70km/hr speed zones.[1]

2.5 In 2001, the then Minister for Roads, the Hon Carl Scully MP, announced the general implementation of 40km/hr speed limits on roads providing access to schools, leading to the establishment of 10,000 school zones servicing all 3,154 schools by 2003. The introduction of the school zones policy meant that the new 40km/hr speed limit operated on all roads with direct school and educational facilities access. Since its introduction across the State, fatalities and injuries involving school aged pedestrians have significantly decreased.

2.6 During the past decade, a number of complementary changes have been introduced to provide additional safeguards for children attending schools in NSW. Agencies with responsibility for school road safety, namely: Roads and Maritime Services (formerly the Roads and Traffic Authority); the NSW Police Force; and the Department of Education and Communities have initiated a series of measures designed to make road users more safety conscious.

2.7 Motorists, students and their carers have been targeted to increase awareness of risks and to highlight the dangers of speeding in and around school precincts. Additionally, engineering treatments such as pedestrian bridges, traffic calming

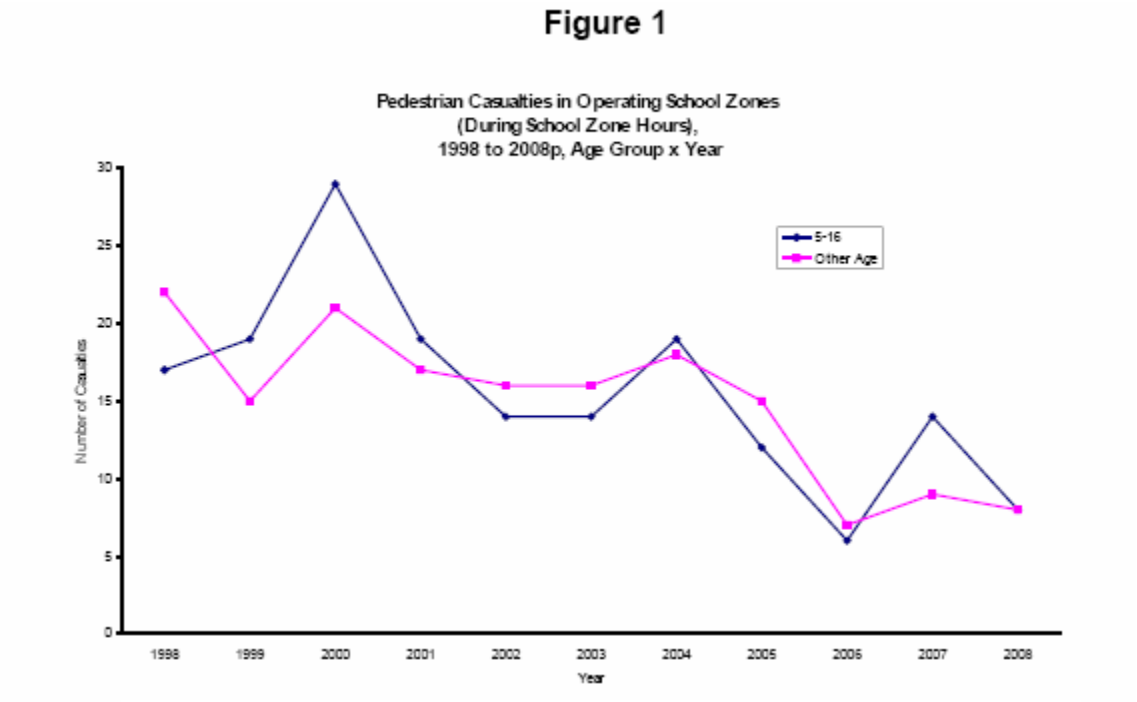
[1] Submission 25, NSW Government, p3.

devices, flashing lights, refuge islands, fencing and crossings have been applied to roads in the vicinity of schools.

2.8 A reduction in crash casualties following these reforms is highlighted in the 2009 review of school zone safety undertaken by the NSW Auditor-General, which examined the operation of approximately one quarter of NSW school zones. The Auditor-General's analysis demonstrated that fatalities and injuries involving school aged pedestrians aged between 5 and 16 decreased substantially between 1998 and 2008.[2]

2.9 This is reinforced in the NSW Government submission to the Committee's Inquiry, which documents the decline in casualties in the following graph[3]:

Figure 1



2.10 A total of 171 child pedestrian casualties were reported during the study period 1998 to 2008, including one fatality during school zone times. Compared to the period before the introduction of State wide school zones in 2003, there was a 45% decrease in all pedestrian casualties in school zones and a comparable 46% decrease for pedestrians 5 to 16 years of age.

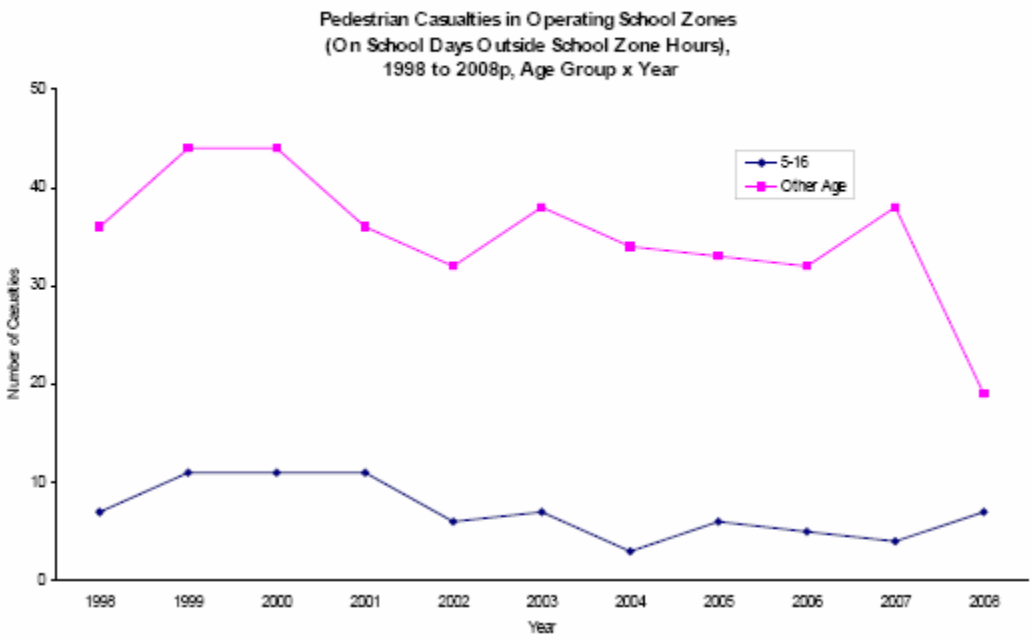
2.11 While the number of casualties in school zones is small, equivalent to an estimated 60 in all school zones on an annual basis, it is worth noting that there was an average of 2,000 annual school aged casualties over the same period. The Auditor-General's report found that the casualty reduction for school aged

[2] Improving Road Safety School Zones, Performance Audit, Audit Office of NSW, February 2010, p2.
[3] Submission 25, NSW Government, p5.

pedestrians was greater than all road casualties and pedestrian casualties overall.[4]

2.12 An analysis of data for casualties in zones on school days outside school zone times is illustrated in the following graph[5]:

Figure 2



2.13 This shows that the annual average number of school aged pedestrian casualties in school zones outside operating hours decreased by 48%, which is a higher reduction than that observed for the same population in all locations at all times. Therefore, according to the NSW Government submission, school aged pedestrians have seen the greatest reduction in casualties across the State compared with other age groups. This has been most pronounced in school zones, both within and outside operating times.

2.14 The submission from the University of NSW Transport and Road Safety Research Group argues that the improved pedestrian safety effectiveness of school zones may not be as great as stated in the official statistics if the data from 2000, which had an abnormally high number of casualties, is discounted. Nevertheless, the authors do agree that school zones have an overall calming effect on urban traffic and that reduced speed does contribute significantly to minimise impact severity and is in keeping with the Safe System approach to road safety.[6]

2.15 In further evidence to the Committee, the University of NSW Transport and Road Safety Research Group made the following observations:

[4] Improving Road Safety School Zones, Performance Audit, Audit Office of NSW, February 2010, p2.

[5] Submission 25, NSW Government, p6.

[6] Submission 15, University of NSW Transport and Road Safety Research Group, p3.

> The 40 kilometres an hour speed limit is a very good idea for school zones in that the probability of fatal injury at 40 kilometres an hour is about 38 per cent. Thirty kilometres an hour is better in that the probability of fatal injury I believe is 10 per cent. So we feel that removing the school zones would be a bad idea in that the decline that we have noticed over the past 10 years or in that 10-year period might go away. Even though we cannot attribute it to the school zones, removing it may result in an increase. [7]

CURRENT OPERATION AND CONSTRAINTS

2.16 School zones are installed where there is access to a school from a public road. According to supplementary information provided by Transport for NSW, the "distance from the school to the road is not a specific consideration in determining whether school zones are installed".[8]

2.17 In response to criticisms expressed in a range of submissions to the Inquiry about the inappropriate location of specific school zones and the lack of zones at other sites, the Government referred to a consultative process whereby Transport for NSW and Roads and Maritime Services consider and investigate such claims. Elaborating on further questions about the selection of zones, Transport for NSW responded as follows:

> Transport for NSW and Roads and Maritime Services are made aware of the views of our customers, including community organisations and individuals concerning the location of school zones... (and) consider and investigate the views of their customers. Following consideration of the issues raised, if it is determined that the location of a school zone, or lack of a school zone, is appropriate, the customer is advised of the reasons for maintaining the status quo. However, if it is considered that a change to the location is necessary, or that a new school zone should be installed, Roads and Maritime Services consults with stakeholders including the affected school, prior to implementation of any changes.[9]

2.18 A submission to the Inquiry argues that guidelines for the installation of school zones should be more flexible and that local council traffic committees should be responsible for the placement and location of zones. The Committee disagrees with this approach and reiterates the view expressed in its previous reviews of school zones that the RTA (now Roads and Maritime Services) should remain the lead agency in this area. This acts to reinforce one of the key elements of ensuring safety around schools, namely consistency of operation. This issue is further developed in Chapter 6 of the Report.

2.19 It should be noted that provision is also made for localised involvement in the management of zones. The Centre for Road Safety, in evidence to the Committee, expressed it in the following terms:

> …we do have a localised framework that allows individual school zone issues to be addressed… It is a bottom-up approach driven by local communities and regional staff. We invest some $3 million per annum in that. It comprises a child and school communities road safety partnership manager within the Centre for Road Safety,

[7] Transcript of Evidence, 21 November 2011, p51.

[8] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.

[9] Ibid.

> and within each of the six Roads and Maritime Services regions we have a full-time safety around schools coordinator. We have also produced a document that we send to principals every year, which is called the Practical Guide to Addressing Road Safety Issues Around Schools. It invites the principals to raise local issues through an established framework. They can touch base with the safety coordinator.
>
> Depending on the issue, they bring in the local council, the police, whoever else needs to be involved to address those local issues, and they are responsible for a range of things: liaising with school communities; liaising with other stakeholders—nearby neighbouring property owners; identifying priority engineering projects that may be required; auditing school zones, ensuring that the facilities we have to make them visible, such as signage or patches, are in good condition; investigating incidents within those zones; and assessing zones for flashing lights. They give us that local input. They are available to the local community as a resource to facilitate addressing those local issues. But I must reiterate that a level of consistency is required in a school zone that can then be adapted and tweaked to the local conditions.[10]

2.20 A primary safety feature of school zones is the 40 km/hr speed limit for motor vehicles.

2.21 Research into the capacity of the human body to withstand impact and survive a crash has resulted in the Safe System approach to road safety, which is now adopted by all leading road safety authorities around the world. This approach recognises that in a complex and interrelated system involving drivers, vehicles and roads, a critical component of crash survivability is impact speed. Therefore, the lower the speed limit, the greater the protection from human error and chance of recovery from crash impact.

2.22 According to the Centre for Road safety, the school zone:

> …slows motorists down, it reduces the risk of a crash occurring and it can reduce the severity of any crash that does occur. Crashes at 40 kilometres per hour are twice as survivable as a crash at 50 kilometres an hour. Crashes at 30 kilometres an hour are five times as survivable as a crash at 50 kilometres an hour. Speed is still the major issue in road safety in New South Wales.[11]

2.23 This approach was also emphasised in the evidence given by the Transport Manager for the City of Sydney, who canvassed the benefits of a further reduction in speed to the international standard of 30km/hr in heavily pedestrianised areas, including school zones:

> …if somebody is hit by a car at 40 kilometres an hour they are far less likely to die than if they are hit by a car at 60 kilometres an hour. Internationally it is 30 kilometres an hour but because it has taken about 12 years to get the RTA down to 40 kilometres an hour, we did not want to push the envelope to 30 kilometres an hour. Traffic also flows better in crowded areas at a slower speed because—I am getting technical here—you do not get compression between intersections: the vehicles are moving easily; they do not have to accelerate, decelerate, accelerate,

[10] Transcript of Evidence, 16 November 2011, p10.
[11] Ibid, p3.

> decelerate. One of the side benefits is there are less particulates pumped into the air as a result of the slower travel speed.[12]

2.24 Uniform speed limits and standard rules governing the operation of school zones are designed to create consistent awareness on the part of motorists to the presence of schools and school aged pedestrians. Regulated hours of operation from 8.00am-9.30am and 2.30pm-4.00pm on school days serve to provide a consistent message of the reduced speed limits applying to traffic movements and to minimise scope for confusion.

2.25 This standardised approach to the management of school zones is subject to some variation in individual cases. Where schools have requested non-standard times of operation and a valid case has been made to vary the starting or finishing time, this has been approved for 26 school zones. The question of operational variability will be explored in greater depth in Chapter 6 of the Report.

2.26 Another issue raised in several submissions to the Inquiry concerns the lack of drop off and parking areas for parents driving their children to school. The Federation of Parents and Citizens' Associations of NSW, in its submission, made the point that "Vehicle 'kiss and drop' zones allowing parents to drop their child and, when needed, to park for short periods and walk them into the school, are a common request from schools. The recognition is that this space allows for parents to feel safe in ensuring their child is able to alight from a vehicle and walk straight in to school gates and directly into school staff supervision."[13]

2.27 When this was raised at the public hearing with Government representatives, the Committee was told that parking should be addressed on a local basis. The Acting Director of the Centre for Road Safety said:

> We set provisions around regulations that stipulate there be no stopping at particular crossing points, et cetera. We look at those pedestrian crossing points and try to restrict parking in that area. Whilst Roads and Maritime Services have responsibilities on State roads, 80 per cent of our network is actually on local roads that are the responsibility of local councils, so we provide guidelines and advice. Of course, the other key avenue is that if issues are occurring the schools raise those with their safety around schools coordinator, who will then harness all the different people involved to look at those issues, such as local councils, NSW Police, adjoining land owners, et cetera. [14]

2.28 The Deputy Director-General, Schools of the Department of Education and Communities, in response to the parking issue, stated:

> We have in some areas schools that have existed for more than 100 years, so that when they came into existence the geographic location was quite different from what we are now looking at from a management point of view. Certainly, parking is an issue around many of our schools, and it does create congestion that can become

[12] Transcript of Evidence, 21 November 2011, p44.

[13] Submission 7, Federation of Parents and Citizens' Associations of New South Wales, p2.

[14] Transcript of Evidence, 16 November 2011, p17.

> a hazard. I mentioned in an earlier response that some of the behaviour of drivers in that congested environment creates a hazard.[15]

2.29 While the enforcement of parking provisions is largely a local government responsibility, it is also important to reinforce the message with comprehensive education strategies. The Catholic Education Commission of NSW told the Committee:

> It is a major challenge for all school communities to try to educate parents about safe areas to park, reiterating the parking legislation and reinforcing positive parent behaviour in picking up and dropping off students. That is where the road safety policy in a school needs to have a road safety environmental map that suggests the parking areas. I know that some principals put in the different parking signs and talk about the fines. Some principals ring the local police when they have had enough and really want them to start enforcing some of the signage. It is a constant challenge with the density and the kiss-and-drop zones. I must say the kiss-and-drop zones usually work quite well because they are generally well managed by the staff. They are very good at educating parents and children about the procedure and protocols involved. It is more when parents are parking where they should not be parking and disobeying road rules and legislation that it becomes problematic.[16]

2.30 It does appear, however, that there is insufficient clarity around the consistent application of rules governing kiss and drop zones. The publicity officer from the Federation of Parents and Citizens' Associations of New South Wales expressed it in the following way:

> We are all aware of schools where you might have a kiss and drop zone. What does that mean because the Roads and Traffic Authority, the local council and the police all have different interpretations of what that means so as a parent how can you do the right thing if there is no consistency and if you do not know does a kiss and drop mean you are not allowed to leave the car and your child has to get out by themselves or does a kiss and drop zone mean that you can stop there for five minutes? Again, if you have three car spaces and you have 400 students and three car spaces for kiss and drop, how does that work? Those things need to be looked at as well.[17]

2.31 An additional issue raised by the Federation of Parents and Citizens' Associations of New South Wales relates to a lack of infrastructure planning to keep pace with new growth and changing needs. Reference is made to the existence of narrow roads without adequate footpaths around schools: "As a result, students are forced to walk on the road on their way to school and share this space with buses and cars which also utilise the narrow roads. This creates a risk to the pedestrian that is unnecessary and could be avoided if there were adequate provisions for the school and community needs."[18]

2.32 Matters relating to land use and infrastructure planning will be discussed in greater detail in Chapter 6 of the Report.

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[15] Ibid, p18.
[16] Ibid, p23.
[17] Ibid, p32.
[18] Submission 7, Federation of Parents and Citizens' Associations of New South Wales, p2.

ENFORCEMENT OF SCHOOL ZONE GUIDELINES AND ROAD RULES

2.33 Although the number of casualties in and around school zones has been reduced since their introduction and is lower than pedestrian casualties on the rest of the road system, motorists continue to exceed the 40km/hr speed limit and pose a continuing danger to school aged children. According to the NSW Auditor-General's report[19], the two likely reasons for exceeding the speed limit are driver unawareness of the rules governing school zones and ineffective and inadequate enforcement of the rules.

2.34 The Auditor-General identified a range of possible causes for driver inattentiveness to the road rules operating around schools. These include the inappropriate placement and poor maintenance of advisory signage; lack of adequate information about operating times; and confusing anomalies and inconsistencies in operating times and speed restrictions applying in the zones. This is a theme echoed in many other submission to the Inquiry and will be pursued further in subsequent Chapters, dealing with safety risk countermeasures, standardisation of school zone operation and road safety education.

2.35 Compliance with traffic laws and the enforcement of speed limits in school zones relies primarily on fixed speed cameras and on the spot fines. In his discussion of the adequacy of enforcement of speed limits in school zones, the Auditor-General found that while speed cameras were only installed in one per cent of school zones, they accounted for 93% of speeding infringements at these locations. This is contrasted with 7% of speeding infringements in school zones without speed cameras.[20]

2.36 It should be noted in this context that speed cameras are installed and operated by Roads and Maritime Services. In response to Members' questions on notice regarding guidelines for the selection of school sites for fixed speed cameras, Transport for NSW responded that cameras are "…installed to specifically address a location with a significant crash history and evidence of a speeding problem or which has a high level of risk, such as tunnel."[21] Suitability is also determined by a length of road which will achieve …"maximum road safety benefit from the installation."[22]

2.37 Elaborating on the selection of the chosen length of road, Transport for NSW stipulated that criteria were indicative and based on the following conditions:

- The number of crashes along the selected road within the school zone must exceed 10 crashes for a 3 year period and include at least one crash in school zone times.
- The Annual Average Daily Traffic (AADT) volume must exceed 10,000.

[19] Improving Road Safety School Zones, Performance Audit, Audit Office of NSW, February 2010, p3.
[20] Ibid.
[21] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.
[22] Ibid.

- There must be potential for conflict between pedestrians and vehicles during school zone times within the 40km/hr school zone.[23]

2.38 When questioned about the prioritisation of speed cameras over other safety treatments and countermeasures, the Acting General Manager of the Centre for Road Safety responded:

> …we cannot simply put a speed camera in for the what if. It has to be based on history and what has occurred on that road, and what the potential risk, the geometry, et cetera are. Therefore, it could be a tool but you may be protecting a very small number of children, but they are still worth protecting, so we need to look at all the different measures and a speed camera itself may not be the answer in all situations… For the school fixed speed cameras the criteria is slightly different to a typical black spot speed camera. With black spot speed cameras we have measures of about an 85th percentile speed and a much higher crash threshold. For the school ones it is a bit lower. We were considering crash risk for children as well, but again, a part of the criteria is a history of crashes.[24]

2.39 Responding to further questioning by the Committee concerning the deactivation of speed cameras in eight school zones as a result of the Auditor-General's recommendations, the Acting General Manager said:

> We support that decision. The analysis showed they were deemed to be not as effective. There is still a crash risk at those locations so we are currently undertaking a major safety review of all 38 locations to look at alternative measures. If the speed camera itself was not addressing the risk at that location it is imperative that we seek alternatives that will address that risk… In terms of the speed cameras themselves, the eight located in those school zones were deemed to be non-effective. When I say that I mean that potentially crashes, fatalities and injuries increased. Therefore, whatever the crash risk at those locations was, the speed camera itself alone was not addressing it...[25]

2.40 In view of the costs involved and the availability of a range of other countermeasures, described in Chapter 4, the Committee considers that the installation and management of speed cameras should continue to be subject to a full assessment in accordance with the factors outlined above. The Committee agrees that while the installation of speed cameras is a useful deterrent in circumstances where an identified risk exists, the current procedures used to determine their suitability for deployment are appropriate and adequate.

2.41 Even though the stated responsibility of the NSW Police Force is enforcement of road rules operating in school zones, the Commander of Traffic Services, in describing the operational basis for their work around schools qualified this role as follows:

> Our main role is deterrence rather than enforcement and detection. If I can deter someone from speeding I can probably save a life. Deterrence will stop them from doing something wrong and killing themselves or others. We have a high profile with marked police cars parked near schools to ensure we get the message across. There

[23] Ibid.

[24] Transcript of Evidence, 16 November 2011, p15.

[25] Ibid, pp6,11.

> are so many school zones across the State that the New South Wales Police Force cannot run a 24/7 operation that concentrates on all school zones… we have 1,200 highway patrol officers in this State. Tasking is done at local area command level across the State to deal with problem areas. With so many school zones operating local area commands concentrate on school zones of high risk.[26]

2.42 Assistant Commissioner Hartley further elaborated:

> …parking offences in the no-stopping areas within the school zones and use of mobile phones within the school zones which are an additional offence rather than a basic offence. We have operations five or six times per year a week or two after students have returned to school. Following publicity of the operation we will make it a priority to enforce for a whole day across State school zones. We concentrate on school zones during the second week of school to get the message across.[27]

2.43 There is general agreement that the most effective way to monitor and modify risky behaviour is to impose an immediate penalty at the time of the offence. In addition to fixed speed camera offences, NSW Police issued in excess of 12,790 infringements for school zone offences in the calendar year 2010. These range from a loss of demerit points sufficient to warrant suspension of the licence by Roads and Maritime Services to offences involving high speed driving offences leading to immediate licence suspension. In the case of an L or P plater, 30 km/hr over the prevailing school zone limit, in the case of unrestricted licence 45 km/hr over the limit.[28]

2.44 School zone offences also carry higher penalties than those applying on the general road system. As an example, exceeding the speed limit over 20 km/hr carries 4 demerits, while a similar infraction in a school zone carries 5 demerit points. In addition, offences in school zones are considered by the State Debt Recovery Office (SDRO) as serious traffic offences. This limits the ability of SDRO to waive penalties in lieu of caution upon application of an infringed driver. A driver must have a 25 year clear driving record if asking to be considered for a caution by SDRO as opposed to 10 years in all other circumstances.[29]

2.45 Although parking offences are within the authority of the NSW Police, these tend to be enforced by local council parking inspectors and rangers. While Roads and Maritime Services establishes parking policies and guidelines, it has no role in their direct enforcement. The extent to which parking contributes to traffic hazards on school grounds will be developed in more detail in Chapter 6 of the Report.

SIGNAGE

2.46 A specific issue relating to the signs installed to advise motorists of the operation of school zones concerns their visibility for drivers. The NRMA in its submission supports the use of fluorescent yellow-green school zones signs in place of what are claimed to be inconsistent faded and yellow signs currently in use. The

[26] Transcript of Evidence, 21 November 2011, p64.
[27] Ibid, p65.
[28] NSW Police, Answers to Supplementary Questions, 13 December 2011.
[29] Ibid.

fluorescent yellow-green signs conform to the current Australian Standard requirement outlined in AS1742.4-2008.[30]

2.47 The Centre for Road Safety, in evidence to the Committee, provided the following response:

> We strongly support that and a third of our school zone signage is now the fluorescent yellow-green and we are progressively rolling it out in line with audit inspections and life replacement of that signage. We hope in years to come that all school signage will be yellow-green.[31]

2.48 The related issue of maintenance is addressed as part of the school zone audit process.

2.49 The Acting General Manager of the Centre for Road Safety also referred to improved signage arrangements as part of a speed zone audit process recently undertaken:

> It is also important to note the speed zone audit we have been conducting recently in that we have recently changed the guidelines. It includes improved gateway signage for all speed zoning. We are looking at innovative ones targeting where you are coming from on all of those rural roads when you are going from a higher approach speed into a much lower speed. We are looking at exploring ways to improve the signage at the gateway to those zones.[32]

SCHOOL ZONE AUDITS

2.50 NRMA Motoring and Services, in its submission to the Inquiry, recommends that the RTA (now Roads and Maritime Services) conducts annual audits of school zones to address maintenance and operational issues. The NRMA argues that such audits would assist in identifying poorly maintained and/or positioned signs, remedial work to improve or replace signs and crossings and an evaluation of speeding and infringement data.[33]

2.51 When questioned about its response to this recommendation, Transport for NSW stated that: "School zone signs, flashing signs and delineation assets at school zones are reviewed through Roads and Maritime Services' traffic management ongoing maintenance and operational programs. Further, Roads and Maritime Services regions often adopt localised programs to identify maintenance and operational issues."[34]

2.52 Transport for NSW further provided the Committee with a detailed account of the conduct of the Roads and Maritime Services maintenance program as follows:

[30] Submission 27, NRMA, p14.
[31] Transcript of Evidence, 16 November 2011, p12.
[32] Ibid.
[33] Submission 27, NRMA, p6.
[34] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.

School Zone Flashing Signs

2.53 The wireless communication of the current school zone flashing signs provides full remote monitoring of the sign operation and health status including (but not limited to) updating school zone operating times, battery health, display faults, sign activation and de-activation times etc. To ensure the school zone flashing signs are operating effectively the health of the signs are reviewed remotely, twice a day. If any faults or operational issues occur, corrective actions are taken immediately. It should be noted that the system is currently achieving over 99% service availability. There are also plans in place to carry out minor maintenance of the flashing signs every two years, for example sign cleaning and scrub clearing.

Static Signs

2.54 Static school zone signs on State roads are inspected annually to assess their condition and are maintained as required. Signs in school zones on non-State roads are not inspected but are maintained when reports are received from the local councils or schools.

Delineation (road markings)

2.55 Delineation (road markings) at school zones along State roads are inspected annually and maintained when needed. Dragon's teeth were audited for skid resistance, luminance and degree of wear several times throughout 2010. School 40km/hr patches or markings in Sydney Region were assessed for skid resistance compliance in early 2011. There is another planned audit for School 40km/hr markings and dragon's teeth for late 2011 in both Sydney region and one rural region.

2.56 Roads and Maritime Services' regions also conduct audits of facilities as appropriate. Examples include:

- In Hunter Region, for State roads, maintenance contracts are held between Roads and Maritime Services and councils. Under these contracts signage (including school zones) is required to be checked once a week. Subsequently replacement / repair work is done as needed. In addition there is six monthly reporting on school zones on state roads, and 12 monthly reporting on school zones on roads that join State roads.

- Hunter Region also relies on ad hoc site visits from council / customer advice / Roads and Maritime Services for reporting of issues. For schools with crossing supervisors (which is 25% of schools in the Hunter Region), once a year Hunter Region check all signage and delineation (road markings) in the school zone. Commencing in 2012, all school zone signage and delineation around these schools will be audited by the school crossing supervisor coordinator(s) once a year. In 2007 Hunter Region undertook a complete check and upgrade of signage and delineation. Since then, Hunter Region has re-checked around 75% of schools (by Local Government Area), with the remaining to be re-checked by end 2012.

- In Sydney Region, reviews of school zones on State roads are undertaken when issues are identified through internal road safety site inspections and/or correspondence. A formal review of all school zones was undertaken in 2008, which resulted in a number of signage improvements that were implemented during 2008/2009 financial year. Roads and Maritime Services has a number of maintenance inspectors who install/replace existing school zone signage when required on State roads.

- In Southern Region, the current practice for State roads is to audit school zones to identify maintenance issues on an 'as needed' basis for delineation components of school zones (signs, 40km/hr yellow patches, dragon's teeth). In 2010 Southern Region audited all its schools and developed a program of works which will take 3-5 years to complete at current funding levels.

- In South West Region, a full time Safety Around Schools Project officer is employed to deliver a Behavioural and Engineering program to improve road safety outcomes in the vicinity of schools. The South West Region covers a large geographical area which services the needs of 276 schools. Under the Safety Around Schools Annual Action Plan, South West Region will proactively inspect and audit 20% of schools in the region per year. In addition, the region responds on a continuous basis to requests received from Schools, Councils and other stakeholders to address road safety concerns as they arise.

- Northern Region is currently undertaking a full stock take of its school zones and developing a database for future auditing purposes. Currently, if a School Crossing Supervisor has concerns about a particular school zone, Northern Region will undertake an audit of that site.[35]

2.57 The Committee acknowledges that this auditing activity is undertaken on a systematic basis, but considers that the level of concern expressed in submissions and evidence to the Inquiry about the poor condition and bad positioning of signage in certain school zones indicates that more needs to be done in this regard. This theme is developed further in Chapter 4 of the Report.

[35] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.

Chapter Three – Factors in Crash Involvement

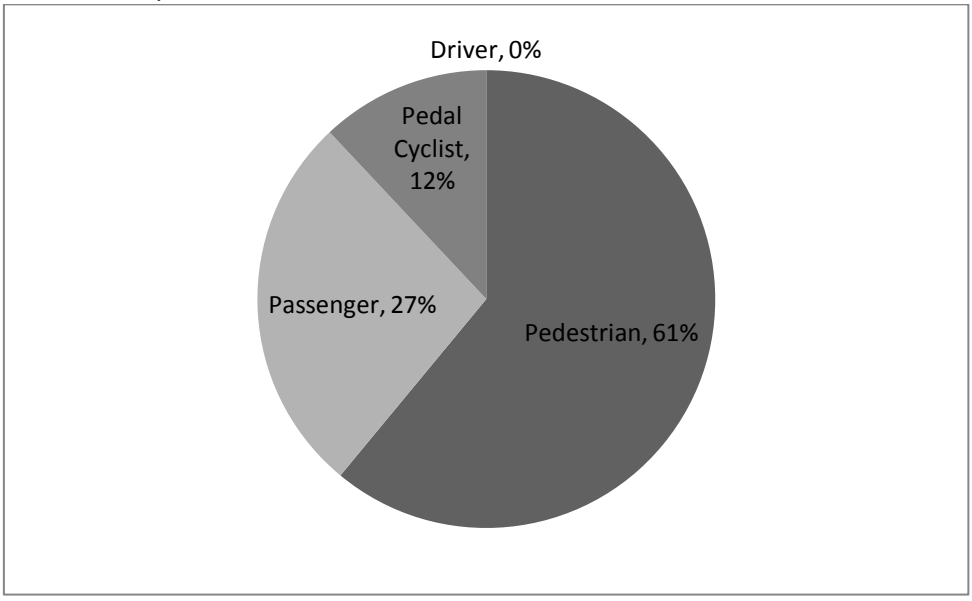
3.1 This Chapter examines in greater detail specific casualty trends involving accidents in school zones, outlines major risk factors for young people when in school zones and examines age as a risk determinant.

CASUALTY TRENDS IN SCHOOL ZONES

3.2 As stated in the previous Chapter, evidence gathered by the Committee shows that pedestrian casualties in school zones have decreased significantly since their introduction. This decrease in casualties is evident both when school zones are active and when they are non-operational.

3.3 A Centre for Road Safety crash data study of 820 unique school zones in the period 1998 to 2008 found that there were 279 casualties aged 5 to 16 years in school zones during operating hours. The majority of these were pedestrian casualties, representing 61% of all casualties aged 5 to 16 years as shown in the following chart[36]:

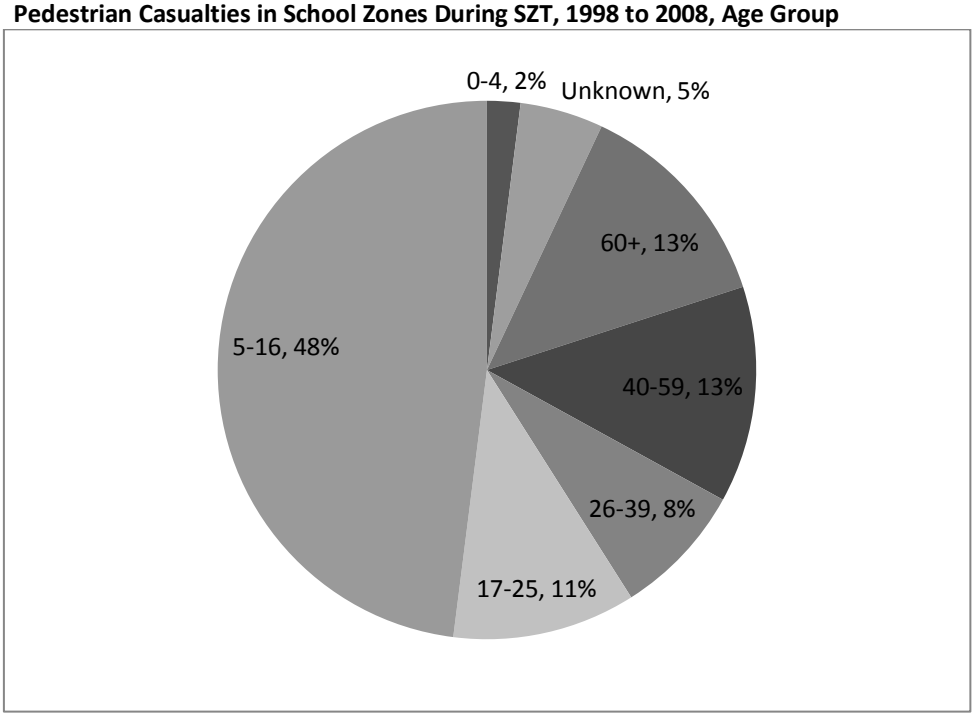
Casualties Aged 5 to 16 Years in School Zones During SZT [School Zone Times], 1998 to 2008, Class of Road User



3.4 Of all 353 pedestrian casualties recorded during operating hours, almost half were aged 5 to 16 years, representing 48% of the population. This is shown in the following chart[37]:

[36] Submission 12, Australasian College of Road Safety, p7.
[37] Ibid.

Pedestrian Casualties in School Zones During SZT, 1998 to 2008, Age Group



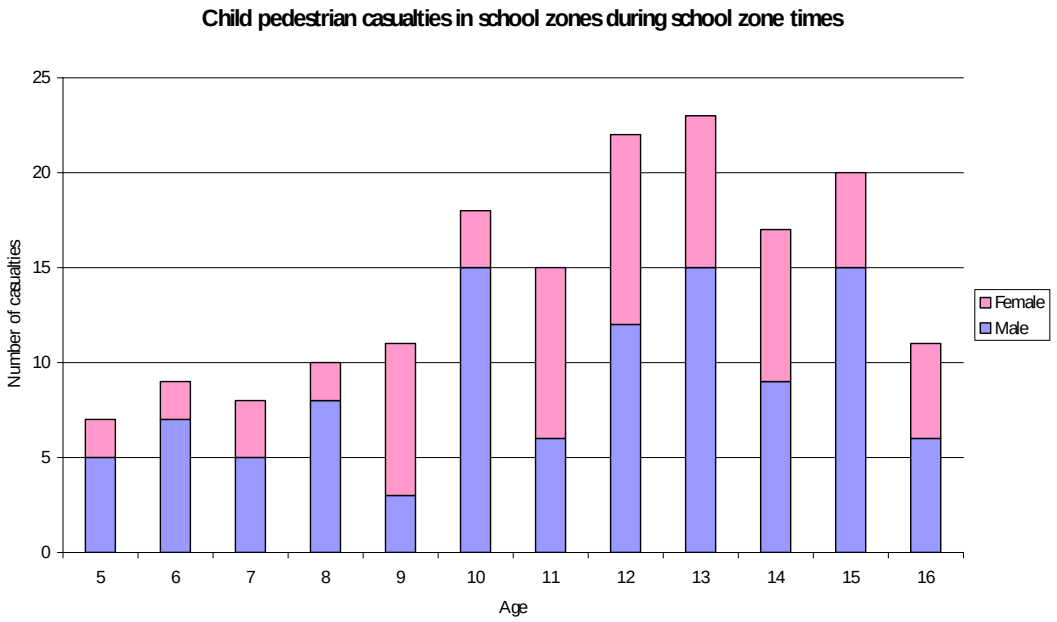
3.5 The Australasian College of Road Safety submission notes that:

> Whilst the incidence of pedestrian crashes involving children in school zones during SZT is significant, the actual incidence for an individual school zone is relatively low – less than one in five school zones in the analysis recorded any pedestrian casualties aged 5 to 16 years during SZT over the entire 11 year study period.[38]

3.6 Within the age group of 5 to 16, children aged 13 years were the most likely to suffer casualties. The data shows that 23 of the 171 casualties were aged 13. This information is shown in the following chart provided by the NSW Government[39]:

[38] Ibid.

[39] Submission 25, NSW Government, p14.



3.7 The chart also shows that males make up the majority of pedestrian casualties, constituting 60% of child pedestrian casualties in the selected sample.

3.8 According to the Commission for Children and Young People, this is in keeping with other statistics where males tend to be over-represented in injuries occurring to children and is partly due to boys being more prone to risk taking behaviour.[40]

3.9 The Committee was also presented with analysis of crash data from a selection of school zones during school zone times. The first impact of crashes is presented in the following table[41]:

Road User Movement (RUM) describing the first impact that occurred in the crash	
Movement in crash (RUM)	*Number of crashes*
Pedestrian nearside	74
Pedestrian far side	50
Pedestrian emerging from behind parked or stationary vehicle	22
Pedestrian on footpath	7
Pedestrian playing, working, standing, lying on carriageway	6
Pedestrian other	2
Pedestrian walking with traffic	1
Pedestrian hit by vehicle entering or leaving driveway	1
Vehicle turning right	1
Vehicles lane sideswipe	1
Vehicles at cross intersection	1

[40] Submission 21, Commission for Children and Young People, p5.

[41] Submission 25, NSW Government, p8.

3.10 The most common crashes involve vehicles and pedestrians, with the majority of these being pedestrians emerging from the kerb to the left of a vehicle (nearside), emerging from the right of a vehicle (far side) or appearing from behind a parked or stationary vehicle.

3.11 Approximately 43% of crashes involving child pedestrians occur at intersections and 40 of the 166 crashes occur at pedestrian crossings.[42]

3.12 No crashes in this sample were recorded as being fatigue or alcohol related but the Government submission did suggest that there was a lack of blood alcohol concentration (BAC) tests for a large number of the crashes. At the public hearing on 16 November, a representative from the Centre for Road Safety told the Committee that:

> Blood alcohol, or BAC, is not collected in injuries. It is mandatory that if you are involved in a fatality or if the police are called you need to be tested. Therefore, there are a lot of injury crashes that occur where the blood alcohol content is not measured. That is the lack of data there. Fatigue is difficult to measure. We estimated in our crash data from the type of crash that a number of crashes are associated with fatigue. Often it is drifting off to the left and then suddenly waking up and overcorrecting to the right, resulting in a head-on accident. Fatigue is difficult. We are undertaking a wide range of research into fatigue, trying to understand how to measure and address it.[43]

3.13 Although the number of child pedestrian casualties has dropped to relatively low levels in school zones since their introduction, young people are still at significant risk when entering or leaving school precincts.

UNDERLYING RISK FACTORS

3.14 Whereas pedestrians in school zones face the same risks as occur in other situations, certain additional factors are influenced by the existence of school zones. These include vehicle speed, parking practices and traffic density.

Speed

3.15 The greatest risk factor in terms of crashes and severity of injuries sustained is the speed at which a vehicle is travelling. Vehicles travelling at faster speeds will have shorter driver reaction times and longer braking distances, leading to a higher speed at the time of collision and an increased chance of serious injury.

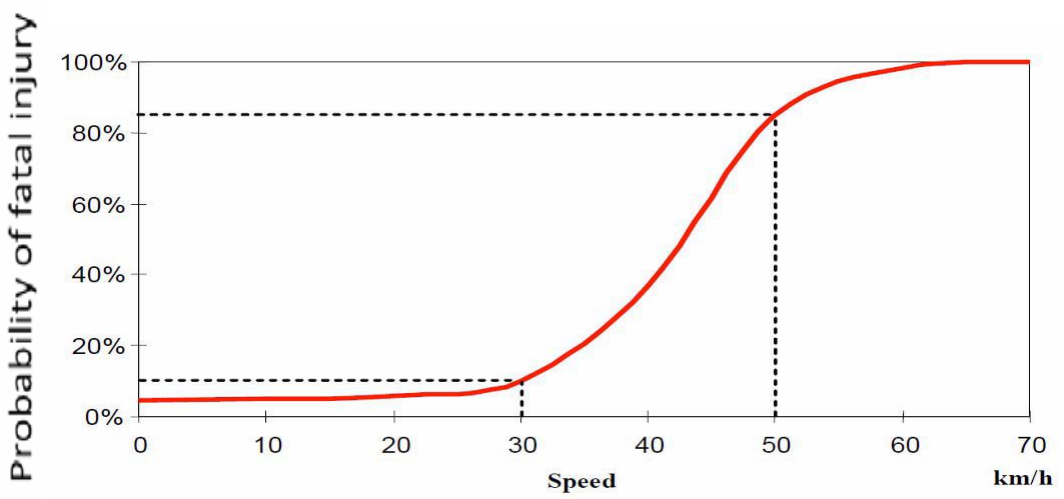
3.16 Representatives from the Centre for Road Safety told the Committee that:

> The 40 kilometre an hour speed zone treatment is the primary safety treatment to protect our children.
>
> It slows motorists down, it reduces the risk of a crash occurring and it can reduce the severity of any crash that does occur. Pedestrian crashes at 40 kilometres per hour are twice as survivable as a crash at 50 kilometres an hour. … In 2010 40 per cent of

[42] Ibid, p9.
[43] Transcript of Evidence, 16 November 2011, p7.

> our fatalities had speed as a contributing factor, albeit other factors also contributed.[44]

3.17 The University of NSW Transport and Road Safety Research Group stated that, according to research published by the OECD and WHO, pedestrians struck at 50km/hr have around an 85% chance of being killed or injured and this drops to 38% at 40km/hr. The chance of being injured or killed continues to diminish as speeds decrease, as illustrated in the following graph[45]:



3.18 This led several stakeholders to call for the current speed limit in school zones to be dropped to 30km/hr, particularly considering the short distance involved in the situation where a pedestrian appears from the nearside of the vehicle or in adverse situations such as when driving at dusk or in wet weather.

3.19 The submission from the University of NSW Transport and Road Safety Research Group pointed out that:

> At 40 km/hr the probability is 38% whereas at 30 km/hr the probability of being killed or injured when struck by a vehicle drops to 10%. It is for this reason the speed limit in high pedestrian active areas in Europe's road safety best-practice countries has been set to 30 km/h.[46]

3.20 This point was reinforced in evidence given by the Australasian College of Road Safety:

> Certainly, in terms of road safety data, in terms of the tolerance of the impact force that children can sustain and still have a high chance of surviving an impact, it is pretty much at 30 kilometres an hour that they are likely to survive an impact … it

[44] Ibid, p3.
[45] Submission 15, University of NSW Transport and Road Safety Research Group, p5.
[46] Ibid, p2.

> would be great if in the future we could look towards making [school zones] 30 kilometres an hour.[47]

3.21 A representative from the University of NSW Transport and Road Safety Research Group also told the Committee that:

> Also I should add that I have been involved in the study of the Bidyadanga community up north of Broome. Their speed limit in their whole community is 30 kilometres per hour. What we noted in that community was there were not any serious pedestrian injuries or fatalities. It certainly works. We know it works. It is really a biomechanical injury criterion that is dominating here.[48]

3.22 The majority of the submissions received and evidence provided by witnesses appearing before the Committee, however, supported school zone restrictions in their current form. The NRMA submission, for example, states that: "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."[49]

3.23 Considering its success in reducing school zone casualties, the Committee is of the opinion that the 40km/hr speed limit is appropriate for school zones. This speed limit also allows for improved reaction and braking time which leads to reduced speed at the point of impact in the case of a collision, as well as increasing the chances of survival.

3.24 According to the NSW Government, speed related crashes are rare in school zones. During the study period of 1998 to 2008, only around 5% of all crashes in school zones were speed related and only 1% of crashes involving a 5 to 16 year old pedestrian, representing 2 out of 166 crashes. This compares to speed being involved in around 17% of all crashes in NSW.

3.25 Despite the low numbers, this represents a reduction of 20% in speed-related crashes in active school zones between the periods before and after the introduction of school zone restrictions.

3.26 The Committee notes, however, evidence provided by the Auditor-General which shows that a survey carried out in 2008 by the then RTA found mean vehicle speeds close to the speed limit of 40km/hr in only 2 schools out of 12.[50] This discrepancy between reduced numbers of speed-related crashes and the suggestion that a number of motorists still exceed the speed limits in school zones is an area which requires further research. The topic will be covered in Chapter 7 of this Report.

Parking Practices

3.27 A common problem in school zones identified in evidence presented to the Committee concerns vehicles stopping and parking in and around school zones.

[47] Transcript of Evidence, 21 November 2011, p3.
[48] Ibid, p52.
[49] Submission 27, NRMA, p4.
[50] Improving Road Safety School Zones, Performance Audit, Audit Office of NSW, February 2010, p16.

This is particularly pronounced where large numbers of students are being driven to school.

3.28 Certain parking and stopping offences in school zones currently attract additional demerit points for stopping on or near a pedestrian crossing or double parking. Nevertheless, a number of submissions referred to motorists disobeying road rules.

3.29 In the submission from the Institute of Public Works Engineering Australia, a member commented that:

> 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.[51]

3.30 The Deputy Director-General, Schools, from the Department of Education and Communities also noted that:

> … one of the continuing frustrations is trying to change the adult behaviour around the school. Adults sometimes illegally park around school areas, reducing the visibility for young children who are attempting to cross the road.[52]

3.31 Similarly, the Auditor-General in his report, Improving Road Safety School Zones, highlights examples of unsafe parking practices, as does the submission from the Pedestrian Council of Australia.

3.32 One of the reasons for these parking issues, raised by a number of stakeholders, is the lack of parking facilities around schools. Schools, particularly older schools, are not always located in areas where parking is available as they are often surrounded by busy roads.

3.33 In addition to the large number of motorists attempting to drop off or pick up children at specific times, congestion problems are compounded by the fact that parents and carers also want to park as close as possible to the school in order to save time and reduce walking distances. Due to the parking demands of teachers, parents and also older secondary school students, there is clearly a high demand for parking in school areas. This can be especially problematic where several schools are in close proximity.

3.34 Wyong Shire Council informed the Committee that current Department of Education and Communities policy "does not permit parents and students to enter school properties to set down, pick up or park, even with disabled students."[53]

3.35 When asked to provide further information on the parking provisions for students with disabilities, IPWEA told the Committee that:

> I have checked with Councils and have been advised as follows:

[51] Submission 13, IPWEA (NSW) Roads and Transport Directorate, p5.

[52] Transcript of Evidence, 16 November 2011, p6.

[53] Submission 4, Wyong Shire Council, p3.

i. Public schools in NSW are regulated by the Infrastructure SEPP 2007 (I SEPP). I SEPP does not appear to require provision for disabled parking. There is a Department of Planning issues paper on this SEPP relating to parking provisions but does not address facilities for the disabled.

ii. Private Education establishments would be required to be built in compliance with the Building Code of Australia (BCA). The BCA requires 1 space for disabled parked in every 100 spaces of part thereof. This is waived if there are less than 5 spaces provided.[54]

3.36 According to the Deputy Director-General of the Department of Education, however, "schools for specific purposes for children with disabilities in most cases have appropriate drop-off zones where transport from the disabilities transport units will come in and drop children."[55]

3.37 In the view of the Department of Planning and Infrastructure, demand for parking space is taken into account: "The amount of parking required by schools is determined as part of the assessment of a Development Application. In the Growth Centres, Development Control Plans generally include specific parking requirements for educational establishments based on the local council controls."[56] Otherwise, however, the NSW Government stated that:

> Parking is a very localised issue and it needs to be addressed on a local basis. We set provisions around regulations that stipulate there be no stopping at particular crossing points, et cetera. We look at those pedestrian crossing points and try to restrict parking in that area. Whilst Roads and Maritime Services have responsibilities on State roads, 80 per cent of our network is actually on local roads that are the responsibility of local councils, so we provide guidelines and advice.[57]

3.38 The Federation of Parents and Citizens' Associations of New South Wales also referred to examples where schools, in consultation with local councils, had provided extra space for parking either on vacant ground at the back of a school or where a number of schools use playgrounds and ovals as additional short-term parking.[58]

3.39 In addition to the lack of parking facilities, IPWEA and the Commission for Children and Young People raised concerns that parking restrictions were not adequately enforced. Parking and stopping enforcement is the responsibility of NSW Police and local councils. Due to the varied nature of the schools and associated school zones across the State, issues with restrictions and their enforcement are dealt with at a local level.

3.40 The report of the Auditor-General points out that of the 164 councils in NSW, 79 did not conduct any school zone parking enforcement during 2008-09.[59] The

[54] Institute of Public Works Engineering Australia Limited NSW Division, Answers to Supplementary Questions, 7 December 2011

[55] Transcript of Evidence, 16 November 2011, p4.

[56] Department of Planning, Answers to Supplementary Questions, 20 December 2011.

[57] Transcript of Evidence, 16 November 2011, p5.

[58] Submission 7, The Federation of Parents and Citizens' Associations of New South Wales, p3 and Transcript of Evidence, 16 November 2011, p30.

[59] Improving Road Safety School Zones, Performance Audit, Audit Office of NSW, February 2010, p19.

Committee notes, however, that both councils in the Sydney area which provided evidence at public hearings performed significant parking control. In addition, NSW Police informed the Committee that they work with councils to lend assistance where appropriate and, according to the Auditor-General's report, the Police issue around 8% of all parking offence notices which amounted to 1,498 infringements in 2008-09.[60]

3.41 To combat the problem of a lack of sufficient parking areas, a number of schools have introduced 'kiss and drop' systems which were referred to in the previous Chapter. These systems allow parents or carers to briefly stop or park in order to let their child alight or to walk a short distance with them to the school without the need for a longer parking space.

3.42 Such systems are a popular means to alleviate parking shortages but can also have the unintended consequence of increasing congestion at school entrances. In addition to this, concerns were raised that there is a lack of consistency around the road rules governing their operation.

3.43 The Federation of Parents and Citizens' Associations of New South Wales told the Committee that:

> We are all aware of schools where you might have a kiss and drop zone. What does that mean because the Roads and Traffic Authority, the local council and the police all have different interpretations of what that means so as a parent how can you do the right thing if there is no consistency and if you do not know does a kiss and drop mean you are not allowed to leave the car and your child has to get out by themselves or does a kiss and drop zone mean that you can stop there for five minutes? Again, if you have three car spaces and you have 400 students and three car spaces for kiss and drop, how does that work? Those things need to be looked at as well.[61]

3.44 The Committee is aware of 'kiss and drop' guidelines under the Roads and Maritimes Services' 'Drop off and Pick up' initiative, which include information for schools on how the system works, the best way to organise a zone, how to inform parents and how to publicise that the system is in place.[62] However, this does not seem to be widely disseminated or understood.

3.45 According to the submission from the NRMA and also evidence from The Federation of Parents and Citizens' Associations of New South Wales, some motorists find parking restrictions unclear and claim that there is not sufficient consistency across the State. One solution put forward by the NRMA is to use more pavement markings, similar to those used at Glebe Primary School in NSW and extensively in the UK and Victoria.[63]

3.46 Another common theme was the need for ongoing education to ensure all parties are aware of the restrictions. This will be covered in greater detail in Chapter 5.

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[60] NSW Police, Answers to Supplementary Questions, 13 December 2011 and Improving Road Safety School Zones, Performance Audit, Audit Office of NSW, February 2010, p20.

[61] Transcript of Evidence, 16 November 2011, p32.

[62] http://www.rta.nsw.gov.au/roadsafety/children/schoolroadsafety/dropoff_pickup.html

[63] Submission 27, NRMA, p8.

3.47 Parking and stopping issues cause various problems with congestion and traffic flow, which also lead to significant dangers for child pedestrians who may dart out from behind parked or stationary vehicles. There is also associated reduced visibility and poor lines of sight for both pedestrians and motorists when there is significant congestion.

3.48 The Committee has previously highlighted the dangers of parked vehicles for pedestrians in its reports on pedestrian safety in 1998 and 2009. This is also stressed by the Commission for Children and Young People which said that:

> European research … indicates that a high proportion of child pedestrian crashes involved visual obstacles, usually parked cars, and that near side collisions where a child emerges from in front of a parked vehicle accounted for almost a quarter of fatal collisions. Child pedestrian deaths often occurred as the child darted out or attempted to cross the road, emerging from behind parked cars, and stationary buses.[64]

3.49 Statistics earlier in this Chapter show that the third most common reason for crashes in school zones is when a pedestrian emerges from behind a parked or stationary vehicle. According to statistics from Transport NSW, there were only 2 school aged pedestrian fatalities between 1996 and 2010 but the Auditor-General notes that one of these "was at least partly due to unsafe parking practices."[65]

3.50 Evidence provided by the ARRB Group also stated that:

> In at least one quarter of casualties that occurred when a pedestrian attempted to cross the road, they had emerged from behind a parked or stationary vehicle. The crash reports indicated that younger children were more likely to have emerged from behind a parked or stationary vehicle. Emerging from behind a parked or stationary vehicle was noted as the primary error factor 47% of the time when parking facilities were present compared with 23% of the time when parking facilities were not present.[66]

3.51 The issue of enhanced safety education for parents is covered in greater detail in Chapter 5 of the Report.

Traffic Density

3.52 As briefly outlined above, traffic density in school zones tends to be relatively high. This is partly due to the general increase in the number of vehicles on NSW roads. In addition, there has been an increase in the number of students being driven to school rather than walking, cycling, or catching public transport.

3.53 Material provided to the Committee by the Australasian College of Road Safety shows that according to surveys carried out on behalf of NSW Health there has been a downward trend in children walking or cycling to school. In a 1985 survey, nearly 25% of girls in year 8 and nearly 30% in year 10 walked to school four

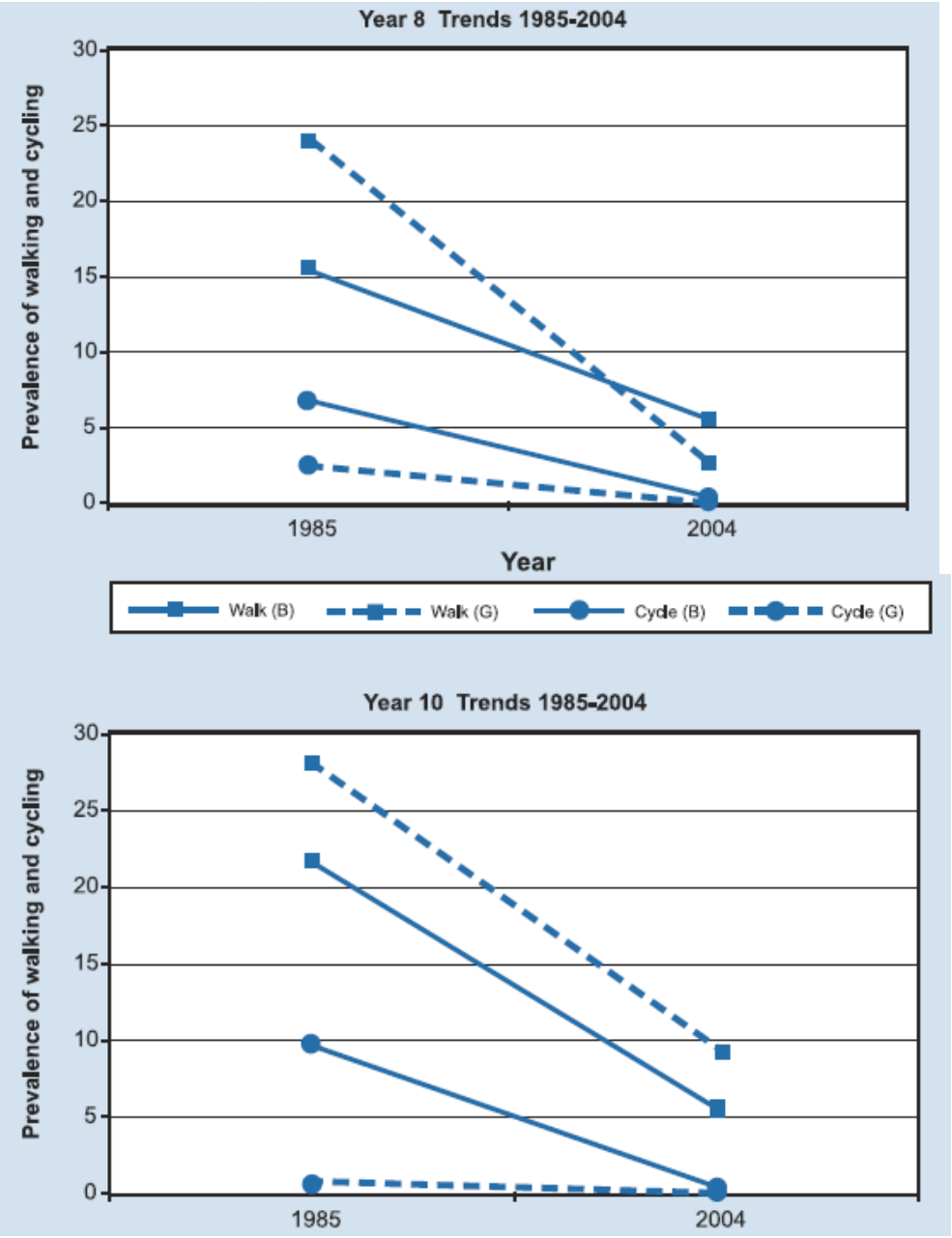
[64] Submission 21, Commission for Children and Young People, p4.

[65] Improving Road Safety School Zones, Performance Audit, Audit Office of NSW, February 2010, p15.

[66] Submission 16, ARRB Group Ltd, p11.

times a week. By 2004, the rates of active travel to school for boys and girls fell in both year 8 and year 10 groups. [67] This is illustrated in the following tables:

Rates of children walking to school in 1985 and 2004 (SPANS)



3.54 This trend was reinforced in evidence given by Wyong Shire Council:

> The 10,000 Friends of Greater Sydney, in its presentation to Road Safety 2011 (Darling Harbour 9 March 2011) identified the significant move away from public transport, in particular, school travel by bus. The document also clearly identified that bus travel was significantly safer than walking or transport by the private car.

[67] Walking for travel and recreation in NSW, What the data tells us, Final report Prepared for the Premier's Council for Active Living (PCAL), 25 January 2011, p21.

> More emphasis and encouragement is therefore required for students to use buses as their mode of transport in lieu of the private car.[68]

3.55 When asked about the fact that there are fewer children walking to school, a representative from the University of NSW Transport and Road Safety Research Group told the Committee that:

> There certainly has been research on that. There are a lot of factors that come into play in relation to why kids are not walking to school more. Parents are driving their kids to school more. That is probably the biggest one. Parents are less secure in letting their kids go off on their own. I guess you guys call it being wrapped in cotton wool; there is a big push for that. Kids are also cycling to school less. It is not just child pedestrians; child cyclists are doing it less. Whether the perception that things are unsafe might play into it I do not know. It is a multifactorial thing; it is not just one reason.[69]

3.56 A number of stakeholders raised the issue of a lack of appropriate infrastructure to encourage alternative methods of school travel. As suggested by the University of New South Wales, parents are hesitant to allow their children to travel to school in a manner which they deem to be unsafe.

3.57 In the submission from the Federation of Parents and Citizens' Associations of New South Wales, it is observed that:

> There are narrow roads which often do not have adequate footpaths developed. As a result, students are forced to walk on the road on their way to school and share this space with the buses and cars which also utilise the narrow roads. This creates a risk to pedestrians that is unnecessary and could be avoided if there were adequate provisions for the school and community needs.[70]

3.58 The Federation notes that this is particularly the case in growth areas where infrastructure has not kept up with the changes in demand from the community.

3.59 The Commission for Children and Young People stressed the benefits of ensuring there is suitable infrastructure to encourage children to safely travel to school:

> That goes to the heart of a lot of work the commission does in promoting the health and wellbeing of children and young people and encouraging more active use of community facilities and walking and cycling and the like for the benefit of children's health. Our work through the built environment has been about encouraging planners, local councils and policy makers to think through how best to promote independent access for children to community facilities and thereby build their capacity to participate in the community for their physical and mental health.[71]

Other factors

3.60 A number of other general road safety risks for pedestrians in school zones were also brought to the attention of the Committee. The Federation of Parents and Citizens' Associations of New South Wales highlighted concerns from a number of

[68] Submission 4, Wyong Shire Council, p3.
[69] Transcript of Evidence, 21 November 2011, p53.
[70] Submission 7, Federation of Parents and Citizens' Associations of New South Wales, p3.
[71] Transcript of Evidence, 21 November 2011, p31.

their members that there were not always sufficient crossing facilities, particularly on busy, multi-lane roads.[72]

3.61 Even when crossings are provided, the Australasian College of Road Safety noted that:

> Quite often with a school there will be one manned crossing, as you mentioned, which is important for school crossings. But if it is only in one area and the parking is several streets down on the opposite end of that road, it is only human nature to get their kids at school on time that people will be crossing away from that crossing.[73]

3.62 The Pedestrian Council of Australia also warned the Committee of the risks involved with inconsistent pedestrian crossings:

> We do not like the idea of a crossing not being a crossing after a certain time. Children leave school at different times … A child does not know that it is no longer a crossing.[74]

3.63 This issue of standardising school zone operations will be explored further in Chapter 6 of the Report.

3.64 The Committee also learnt that designated crossing areas can lead to complacency amongst children and an assumption that vehicles will be aware of their presence and will stop accordingly. A proposed solution to the risks involved with crossings is to allocate crossing supervisors or lollipop people.

3.65 Representatives from the Australasian College of Road Safety outlined the main benefits of a supervised crossing:

> On a regular pedestrian crossing you might continue once a person has crossed to the other side, but because children are unpredictable and can turn around and dart back the rule on school crossings is that you must wait until everyone is off the crossing. Having the lollipop person there makes the cars wait until everyone is off the crossing and is much more effective than trusting that everyone understands the rules.
>
> In addition to school crossings, legally to have longer setbacks for parking gives greater sightlines so drivers can respond to children behaving unpredictably.[75]

3.66 A number of other stakeholders also spoke favourably about the use of crossing supervisors as an additional visual reminder for motorists to behave safely while in a school zone. Parents are more comfortable allowing their child to cross under another adult's supervision.

3.67 The NSW Government advised that where appropriate, or following communication with school Principals, they will bring in crossing supervisors for school zone crossings.[76]

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[72] Submission 7, The Federation of Parents and Citizens' Associations of New South Wales, p5.
[73] Transcript of Evidence, 21 November 2011, p6.
[74] Ibid, p74.
[75] Ibid, p7.

3.68 Another contributor to increased safety risks is public transport around schools. While an integral part of transporting children to and from schools, this involves the use of large vehicles and adds to problems involving lines of sight for children and motorists.

3.69 The Catholic Education Commission pointed out that:

> … in relation to bus safety the most dangerous time is getting on and off buses. There are actually very few injuries when people are in buses; it is the embarking and disembarking from buses. Managing buses around schools is a major issue for all schools.[77]

3.70 The safest option for students is for buses to have dedicated drop off bays which are separate from the main road. This improves traffic flow and also creates separation between the children and other vehicles in and around the school zone. Where possible, students can also be accompanied to the bus by an appropriate supervisor.

3.71 According to the Deputy Director-General, Schools of the Department of Education and Communities:

> Not all schools have the available space to have off-street facilities for general pick-up although we try to do that in new areas where we develop drop-off zones and appropriate bus bays to come out of the traffic flow.[78]

3.72 Most of the arrangements around buses are dealt with at a local level and organised by schools themselves. Where possible, Transport for NSW encourages placing school gates and bus stops close to one another. Bus stop locations can be selected by bus operators with the approval of Roads and Maritime Services.

3.73 Several stakeholders commented that they have had difficulty in gaining assistance from the Department of Education and Communities to improve bus facilities for existing schools. This can lead to bus stops being located in high risk areas for child pedestrians.

3.74 The Federation of Parents and Citizens' Association of New South Wales told the Committee:

> Anecdotal information has indicated that bus zones are often placed away from active pedestrian/traffic flow areas in shopping precincts to prevent holding up traffic in these areas. The location of these services often results in students having to walk from the bus drop off zone to the school gates, opening them up to potential danger from traffic. This can also cause isolation of children waiting at bus stops and pick up points in the area and makes them increasingly vulnerable. Recent reports of attempted snatching of children suggest that every effort should be made to ensure students are always in the public eye in their movement from transport modes into the school gates.[79]

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[76] Transcript of Evidence, 16 November 2011, p4.

[77] Ibid, p22.

[78] Ibid, p4.

[79] Submission 7, Federation of Parents and Citizens' Associations of New South Wales, p3.

3.75 The issue of bus safety awareness is developed further in Chapter 5.

AGE AS A RISK DETERMINANT

3.76 There are a number of specific age related factors influencing child pedestrians which must be considered when looking at risks in school zones. Some risks will relate to all students while others will become more or less prevalent as a child develops, both mentally and physically.

3.77 Children are physically smaller than other road users and can therefore be much harder to see by motorists, increasing the risks of a collision. Their small stature can also lead to more severe injuries as their bodies are not fully developed.

3.78 In addition to this, children tend to be unpredictable, are prone to acting rashly and have a desire to experiment and take risks. This is, in part, due to the fact that risk perception and decision making skills take time to develop.

3.79 A common problem for all young people is trying to identify when it is safe to cross the road. The submission from the NSW Government pointed out that:

> Crossing the road requires cognitive skills that utilise problem solving skills, to identify a safe place to cross, visual scanning skills, estimating vehicle speed and distance and predicting when the vehicle will pass by. …
>
> As pedestrians, young children experience difficulty:
>
> - in the ability to select a safe gap in traffic;
> - in determining a safe place to cross; and
> - identifying hazards in the road environment.[80]

3.80 The problems encountered in identifying safe gaps are compounded by the fact that young children may also over-estimate how quickly they can cross the road.

3.81 Different stages in a child's development cause specific risks throughout their school years. These developmental stages are set out below.

Preschool

3.82 The Commission for Children and Young People outlined the dangers of very young children in a school zone environment:

> Because of their immature neural development and lack of acuity in both sight and hearing, infants and toddlers cannot make any safe judgements about vehicles or the road and parents/ carers need to assume full responsibility for children's safety. The greater mobility of infants in their second year and increasing curiosity about their environment can place them at greater risk of injury. Children at the early childhood stage, (2-5 yrs), are also at great risk as pedestrians as they are becoming

[80] Submission 25, NSW Government, p10.

> adventurous but have not yet fully developed depth perception, scanning ability or the capacity to judge speed.[81]

3.83 For these reasons, submissions from the Commission for Children and Young People and Kidsafe NSW recommended that school zone restrictions be expanded to areas around child care centres and preschools.

3.84 Evidence provided by the Deputy Director-General of the Department of Education and Communities, however, stated that:

> The Department of Education and Communities operates 100 preschools across the State, the majority of which are on the site of an existing school and would fall within the current school zones and the supervision and procedures that occur around the normal school zone.[82]

3.85 In addition, the Acting General Manager of the Centre for Road Safety pointed out that:

> There are over 3,000 licensed early childhood centres, including established centres like the large ones you see, plus private homes. But the risk is greatly reduced, as children are required by law to be accompanied into those centres and to be signed in by an adult or carer and therefore the children are never exposed on their own in the traffic environment. Many of those facilities have off-road parking so they do not have the same risk as schoolchildren independently accessing schools. The children are accompanied all the way into the centre and they are picked up in the afternoon and are not alone in the traffic environment.[83]

3.86 Considering these arguments, the Committee considers that current NSW Government policies offer sufficient protection for students not yet in kindergarten and does not support expanding school zones to cover childcare centres and preschools at this time.

Primary School

3.87 Children in the five to seven age group become aware of the dangers of crossing the road but struggle to focus on what is important and what can be ignored. They are easily distracted by whatever may be happening, which can lead to a lack of concentration and a failure to focus their full attention on potential hazards. [84]

3.88 The earlier years of childhood are times of significant cognitive development. Through experience and experimentation, children learn vital skills which are appropriate for road safety. The NSW Government states that:

> Cognitively, for young children under 10 years of age the strategies, skills and understandings of road safety and traffic environment are not yet fully developed. It is between the ages of 6 and 10 years that children develop the ability to plan ahead,

[81] Submission 21, Commission for Children and Young People, p5.
[82] Transcript of Evidence, 16 November 2011, p8.
[83] Ibid, p9.
[84] Submission 21, Commission for Children and Young People, p5.

> understand rules, consider consequence of actions, follow a logical sequence of thought, determine between right and wrong.[85]

3.89 The Committee has been told that until the age of ten, children have difficulty judging the distances involved with approaching vehicles. They cannot accurately determine the source and absolute location of a sound. They also cannot effectively judge speed and are not sufficiently aware of stopping distances. In addition, from the age of five to twelve, it is difficult for children to stop their movement once they have set off so they are not able to halt or avoid a vehicle if they step into the road in an unsafe position.[86]

Transition to High School

3.90 Students who begin high school often face a number of changes in their journey to school which can lead to various risks. More often than not, the new school is located in a different and busier area than the previous school, resulting in students having to negotiate a new and unfamiliar route. This new route is commonly longer than previous journeys to school and students may experience more complex traffic situations, a greater variety of modes of transport or a combination of all these factors.[87]

3.91 Once a student starts high school, they are usually eager to gain more independence so are more likely to travel to school without adult supervision. Secondary school also puts more demand on students and, according to the submission from Youthsafe, the consequences of this are:

> Greater likelihood that high school students will be more fatigued when travelling due to factors such as increased study demands, more commitments both at school and outside school, carrying heavier bags, laptops etc.[88]

Adolescence

3.92 While adolescents have better developed cognitive skills and more fully developed motor functions than younger children, their risk perception and decision making skills are still developing. The prefrontal cortex which is responsible for reasoning, self control and decision making continues to develop until the mid twenties.[89]

3.93 Nevertheless, the submission from Youthsafe stated that: "it is more about 'failure to deploy these skills that contributes to increased vulnerability of adolescent pedestrians'".[90]

3.94 Adolescents experience a greater sense of independence and become more influenced by peer groups and, in facing new experiences, there is a propensity to experiment and seek thrills. As part of this, risky behaviour often evolves as a reaction against parental standards and from a feeling that careful behaviour is

[85] Submission 25, NSW Government, p10.
[86] Submission 21, Commission for Children and Young People, p5.
[87] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.
[88] Submission 17, YouthSafe, p4.
[89] Ibid, p2.
[90] Ibid, p3.

childish. This leads to less careful road crossing and a more general espousal of risk taking as part of self-identity and for peer approval.[91]

3.95 There is also evidence to suggest that parents are unaware of these limitations in adolescents and may overestimate their child's capabilities, leading to less proactivity in assistance and education.

3.96 Finally, Youthsafe highlights the fact that:

> High school students are likely to be experiencing more distractions while travelling with new friends or using mobile phones, MP3s or other technologies.[92]

3.97 The Committee notes that technological distractions are becoming more common in all walks of life, particularly among children and this fact should not be overlooked.

3.98 These specific risk factors are considered when students learn road safety as part of their education. Age specific learning is covered further in Chapter 5 of the Report.

[91] Submission 25, NSW Government, p13.

[92] Submission 17, YouthSafe, p4.

Chapter Four – Additional Countermeasures and Safety Strategies

4.1 The aim of any road safety regime is to reduce trauma and injury. Mention has already been made of the Safe System approach to road safety. This applies a holistic view of the road transportation system and interactions between roads, travel speeds, vehicles and road users. As an all encompassing model of road safety, it includes drivers, motorcycle and bicycle riders, passengers, pedestrians and heavy vehicle drivers. The Safe System approach takes account of and attempts to accommodate human error to reduce impact severity when a crash arises.

4.2 The National Road Safety Action Plan 2009-2010 identifies various components of protective systems and speed management to prevent and reduce risks of injury and death in the event of a crash. These include: roadside treatments to improve safety; speed management; road safety education and awareness raising; road rules enforcement and penalties for non-compliance; and research based interventions to identify the most cost-effective solutions for particular situations.[93]

ROAD SAFETY INFRASTRUCTURE

4.3 Engineering treatments to enhance pedestrian safety are designed to improve access, reduce crossing distances and improve visibility for drivers and pedestrians. Traffic calming devices also slow traffic flow and raise driver awareness to the presence of pedestrians on the road.

4.4 Roads and Maritime Services employs a range of localised treatments to reduce the potential for conflict between vehicles and pedestrians. These include: pedestrian traffic signals; marked crossings such as zebra crossings; children's crossings; pedestrian bridges or underpasses; kerb ramps and extensions; pedestrian refuge islands; and pedestrian fencing. While the optimal treatment is total physical separation between pedestrians and vehicles this is not always practicable or cost effective.

4.5 The precise treatment deployed at a particular location is subject to a review of the "individual traffic environment and local issues".[94] A number of reference documents are available to guide road safety practitioners on suitable pedestrian safety solutions. These include the following:

- Austroads Guide to Road Safety;
- Austroads Guide to Traffic Management and Australian Standards AS 1742, 1743 & 2890;
- Roads and Maritime Services Austroads Supplement (see Part 6, section 8);

[93] National Road Safety Action Plan 2009 and 2010, Australian Transport Council, pp5-6.
[94] Submission 25, NSW Government, p15.

- Roads and Maritime Services AS1742.10 supplement (See part 10, section 9.2); and
- Roads and Maritime Services Technical Direction (TD 11/01a).[95]

4.6 Roads and Maritime Services has also developed a matrix to demonstrate the relationship between treatments and to assess the effectiveness of measures used. This is set out below:

	Speed zone	≤ 60km/h	70km/h or 80km/h	≥ 90km/h
001	Roundabout 1-Lane	75	75	
002	Roundabout 2-Lane	75	75	
003	Install new traffic signals, filter turns allowed	5	5	
004	Install new traffic signals, no filter turns allowed	30	30	
005	Install fully control right turn with arrows	30	30	
006	Introduce right turn phase while leaving filter	5	5	
007	Upgrade signal display, mast arm/additional lanterns	10	10	
008	Install mid-block pedestrian signals on high volume roads	30	50	
009	Install mid-block pedestrian signals, pelican, on high volume roads	25		
011	Install mid-block slow point on urban road, raised threshold / horizontal deviation	30		
012	Remove sight distance restrictions at intersection	15	15	15
014	Move limit lines forward using kerb extensions on priority road	20	20	20
018	Separate through and parking lane, with painted line reinforced with kerb blisters	20		
028	Install new "Stop" signs	10	10	10
033	Install street lighting, night time crashes only	10	25	
034	Install intersection lighting, night time crashes only	20	25	30
035	Install lighting at pedestrian facilities, night time crashes only	25	30	
036	Street closure - cross intersection, targeted crashes only	30	30	30
037	Street closure - T intersection	100	100	100
038	Close intersection with median	50	40	30
040	Install a painted median greater than 1.5m wide	20	20	20
041	Install extended length of deflective median, not closing intersection	50		
042	Install extended length of mountable median, not closing intersection	50	50	
043	Install median islands with Additional Priority Signs (MIST)	25	25	25
044	Install a raised threshold at pedestrian crossing	80		
045	Install marked pedestrian crossing	5		
046	Install kerb blisters with marked pedestrian crossing	10		

	Speed zone	≤ 60km/h	70km/h or 80km/h	≥ 90km/h
047	Install kerb blisters without marked pedestrian crossing	10		
048	Install pedestrian refuge with kerb blisters with marked pedestrian crossing	20		
049	Install pedestrian refuge with kerb blisters without marked pedestrian crossing	20		
050	Install pedestrian refuge without kerb blisters with marked pedestrian crossing	10		
051	Install pedestrian refuge without kerb blisters without marked pedestrian crossing	10		
052	Install pedestrian fencing on median	50		
053	Install pedestrian fencing on kerb	20		
054	Install pedestrian grade separation	80	90	90
055	Install a seagull island without acceleration lane, painted island	15	15	15
056	Install a seagull island without acceleration lane, raised island	25	25	25
057	Install a seagull island with acceleration lane, painted island	15	15	15
058	Install a seagull island with acceleration lane, raised island	25	25	25
061	Upgrade T junction from no existing treatment to channelised right turn treatment, pavement widening with a right turn lane	10	10	10
063	Upgrade T junction from BAR to CHR	10	10	10
064	Upgrade T junction from AUR to CHR	20	20	20
067	Install a 1.25 m wide painted profile (audio-tactile) centre line		10	10
085	Improve vertical alignment		20	20
086	Improve co-ordination of horizontal and vertical alignments		40	40
104	Reduce speed limit by 10 km/h	30	20	15
105	Reduce speed limit by 20 km/h	40	30	20
106	Install new seal on poor surface, wet surface crashes only	10	10	10
109	Install non-skid surface, wet surface crashes only	20	15	15

4.7 The matrix is used to model the percentage change in crash rates and to assess the benefits of different types of treatments in a range of maintenance and upgrading works. Percentage figures represent the reduction or increase associated with various treatments and grey areas indicate that the treatment cannot be applied in that zone.[96]

SPECIFIC TREATMENTS

4.8 In the Sydney region, there are approximately 4,900 pedestrian facilities at schools (including marked foot crossings, raised crossings, refuge islands and signalised crossings).[97] The Acting General Manager of the Centre for Road Safety described the range of safety measures as follows:

> …the basic treatment is the speed zone itself. Then there is a range of other treatments that we can use to improve safety at that location. They may be traffic

[95] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.

[96] Submission 25, NSW Government, pp16-17.

[97] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.

> signals, traffic calming treatments, such as raised medians, pedestrian crossings, or pedestrian fencing in order to prevent crossing at a particularly dangerous point. Then there is the human element where we will bring in a school crossing supervisor at a particular crossing in school zone periods. We work with schools to encourage drop-off and pick-up initiatives to be done in a controlled manner. The placement and location of parking is also crucial. We know that the crash type of people emerging from a parked vehicle is also critical. So the placement of no stopping zones near crossings is important, and the enforcement of parking around schools is critical. Then there is the way in which we make school zones visible in order to ensure that motorists are aware that they are entering a school zone and that there will be a high level of pedestrian activity, reinforced with back-to-school communications at the start of a school year or term.[98]

Pedestrian Bridges

4.9 Pedestrian bridges provide the greatest amount of separation between moving vehicles and students entering or leaving school grounds. The $3 million cost[99] of such structures is, however, prohibitively high for deployment in all school zones. Additionally, there is a requirement for disabled access via a ramp or lift to the structure and its overall success is contingent on full usage by pedestrians. There are currently more than 70 bridges in a school zone, covering over 80 schools.

4.10 An evaluation of pedestrian bridge usage carried out at selected locations in September 2011, revealed that whereas a substantial proportion of students did make use of the overhead bridges, a number of others chose to cross the road at grade, particularly where a signalised intersection was available.[100] The Acting General Manager of the Centre for Road Safety elaborated on this issue at the public hearing:

> … unless we can totally restrict our at grade access, which is usually impossible using traditional methods of pedestrian fencing, there is no way to force the children to use these facilities. Our surveys show that whilst the majority will many do not. Where there is an opportunity children will cross at grade, especially when traffic signals are available. The issue is that the behaviour of many children and young adults is unpredictable, as it is with many adults… But the challenge here also relates to access for people with disabilities. For example, if a lift is not working to an overbridge we need to provide an alternative at the grade crossing point.[101]

4.11 There is some criticism of the lack of more comprehensive evaluation of this costly treatment option. As the NRMA Senior Policy Adviser informed the Committee at its public hearing:

> What we have not seen is any evaluation of the effectiveness of pedestrian bridges and fencing. We put some examples in our submission: One on Parramatta Road and Fort Street, near Leichhardt, where the school has a pedestrian fence, parking, and set-down and pick-up occurs in a side street. The policy currently says that we should have 40-kilometre school zones wherever the school has an access to the road. We need to evaluate how effective these things are. There has been a

[98] Transcript of Evidence, 16 November 2011, p6.
[99] Submission 25, NSW Government, p18.
[100] Ibid.
[101] Transcript of Evidence, 16 November 2011, p9.

> significant investment and it would be good to see an evaluation of that investment and how effective it is. [102]

Pedestrian Crossings

4.12 In school zones, dedicated children's crossings augment the ordinary pedestrian, or zebra crossings by requiring drivers to stop and wait at the crossing until it is clear of pedestrians either crossing or about to cross. They operate under rule 80 of the Road Rules and are the most legally stringent marked pedestrian crossings in the vicinity of schools. The purpose of a children's crossing is to provide a specific part-time facility to cater primarily for school children, who may behave unpredictably when navigating the road.[103]

4.13 Children's crossings operate just before or after school hours and other times as agreed by the local council, have orange flags displayed when operational and a 'Crossing Ahead' sign placed before the crossing to alert drivers.

4.14 Raised pedestrian crossings are utilised where there is a high level of pedestrian traffic, including schools. They function to increase visibility of the crossing and pedestrians and assist in slowing down traffic. The majority of pedestrian crossings are installed on local roads. In all other Roads and Maritime Services regions outside Sydney, there are approximately 505 pedestrian crossings at schools and approximately 20 of these are raised crossings.[104]

4.15 Raised crossings, also called wombat crossings, were discussed with witnesses appearing before the Committee at public hearings. There was general support for them in the circumstances described above, that is, on secondary roads with adequate drainage. In the words of road safety experts from the Australasian College of Road Safety, wombat crossings are effective in the following way:

> You can adjust the slope of entry onto the wombat crossing to force different speeds and you can make them so that quite low speeds are required outside schools. There is also a platform area that you are not going to speed across because you have to go down the other side. It keeps motorists slow across the whole platform. Compared to a speed hump, which people can often take quickly and then speed up rapidly as they get past, the wombat crossing is elongated and combined with a pedestrian crossing it can be very effective in slowing the cars over a longer distance and stopping them from speeding away… I doubt it is an appropriate speed control device for any major road that you and I would know the name of. In local streets, yes. On the corner of Smith and Jones Streets, yes, but not on the Pacific Highway or on Ourimbah Road or other major roads that carry heavy traffic—I would say that with anything over 10,000 vehicles a day it would become problematic.[105]

Pedestrian Fencing

4.16 Pedestrian fencing is also installed to improve safety by preventing unsafe crossing behaviour and directing pedestrians to controlled crossing points. Roads and Maritime Services refers to a study demonstrating the safety benefits of such

[102] Transcript of Evidence, 21 November 2011, p40.

[103] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.

[104] Ibid.

[105] Transcript of Evidence, 21 November 2011, pp7-8.

fencing at selected sites where a significant number of pedestrian crashes were substantially reduced after the installation of the fences. An analysis of the use of fencing at Military Road showed a 75% reduction in pedestrian crashes after its installation.[106]

4.17 The majority of pedestrian fencing is installed on local roads. At all other locations in Roads and Maritime regions outside Sydney, pedestrian fencing is installed at between 1% and 8% of schools within each region.[107]

4.18 The City of Sydney provided a less supportive endorsement of the benefits of pedestrian fencing in supplementary information supplied after the public hearings. According to the City of Sydney, many UK authorities are removing pedestrian fencing to improve the character of streets due to a variety of factors, including: fencing preventing pedestrians from accessing their preferred routes from one place to another; the encouragement of higher vehicle speeds due to a lower perceived risk; degrading the street scene; and, in areas of high demand, taking valuable footway space away from pedestrians.[108]

4.19 The City of Sydney made reference to the removal of pedestrian fences in Kensington High Street, London, and a subsequent 44% reduction in accidents. The installation of pedestrian barriers along Druitt Street in Sydney was not supported by the City of Sydney council.[109]

4.20 The Committee supports more evidence based research into the cost effectiveness and benefits of pedestrian fencing in reducing crash casualty risk.

Traffic Control Signals

4.21 The crash history at particular locations is also used to determine and prioritise the installation of traffic control signals. These form part of the Sydney Coordinated Adaptive Traffic System (SCATS), a centrally controlled computerised system continually reviewing signal times. Pedestrian signal phasing as part of the traffic cycle is based on activity monitoring and requests from councils, schools and disability access needs and all new traffic control signals now incorporate a pedestrian phase, except where it is not appropriate. [110]

4.22 Factors governing the installation of traffic signals include the following:

- Traffic flows and demand;
- Continuous traffic;
- Pedestrian safety requirement;
- Pedestrian safety on high speed road;

[106] Submission 25, NSW Government, pp23-24.
[107] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.
[108] City of Sydney, Answers to Supplementary Questions, December 2011.
[109] Ibid.
[110] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.

- Traffic conflicts;
- Access to major roads, connecting facilities for pedestrian access;
- Cabling and traffic signal locations;
- Pedestrian clearance times;
- Heavy vehicle demands;
- High speed turning traffic;
- High proportion of children, elderly or people with disabilities;
- High volume of pedestrians;
- Number of lanes of traffic turning left through the marked foot crossing;
- Cost of installation and availability of funds;
- Maintenance costs; and
- The signposted speed limit is not more than 80km/hr.

4.23 Due to the high cost of installation of signals, the need is assessed against the factors set out in the matrix described earlier in this Chapter.

Flashing Lights

4.24 A particular school zone safety measure which has universal support is flashing lights. An evaluation of flashing lights in 40km/hr school zones carried out by the Australian Road Research Board for the then RTA in 2006 demonstrated that:

- Flashing lights were effective in reducing vehicle speed outside schools during the operation of the 40 km/hr school speed zone. Statistical analysis indicated speed reductions were statistically significant, and not due to other factors;
- Flashing lights placed on regulatory 40 km/hr school speed zone signs were most effective in reducing vehicle speeds, while the use of flashing lights on advisory signs proved ineffective in reducing vehicle speeds; and
- The use of static 'Slow Down' only signs was associated with an increase in travel speeds, over and above that exhibited by control sites. This finding, however, should be treated with caution as the relatively small number of 5 sites may not provide a true representative of the performance of static signs.[111]

4.25 The Institute of Public Works Engineering Australia (NSW), in its submission to the Inquiry, argues for more cost benefit analyses of current treatments. Particular reference is made to the use of flashing lights on roads with low traffic

[111] Evaluation of flashing lights in 40km/hr school zones, Final Report, ARRB, April 2006, pvii.

volumes, where the Institute has surveyed its membership and reports that such treatment should only be installed where there is high traffic flow past the school.[112]

4.26 The Australian Road Research Board (ARRB), which develops the Austroads practitioner guides used by road safety agencies and transport managers, has been involved in the subsequent development of two school zone specific flashing light projects for the RTA (now Roads and Maritime Services). These are the School Zone Alert System Evaluation project and the School Risk Prediction Model.

4.27 Whereas the School Zone Alert System Evaluation project used speed volume data to assess the effectiveness of flashing light technology in reducing vehicle speed through school zones during school zone operating times, the School Risk Prediction Model provided a risk based model to evaluate and prioritise the rollout of flashing lights across NSW. The risk based evaluation tool, School Risk, takes account of a range of road environment and road user factors in determining relative risk scores to rank school zone locations. This in turn allows decisions to be made concerning funding priorities based on locations with the highest risk to child pedestrians. It can also be used to guide funding allocations to other safety treatments, such as traffic calming.[113]

4.28 Referring to the research work carried out by the ARRB, the Acting General Manager of the Centre for Road Safety advised the Committee:

> We have employed the Australian Road Research Board to provide us with some tools and we use the risk criteria they have developed to help us assess and prioritise the need for flashing lights. We assess through this pedestrian risk model and we measure things like severity exposure and the likelihood of a potential crash against the possibility of a crash occurring, and we consider factors such as crash risk, traffic and pedestrian volumes, approach speed limits, number of travel lanes, existing facilities such as crossings, site distance and visibility, and of course road environment and geometry.[114]

4.29 As a result of the safety improvements demonstrated in evaluation studies, Roads and Maritime Services has increased the rollout and coverage of flashing light technology to schools across the State. At the end of 2011, 746 school zones covering 908 schools were protected by the flashing lights warning system.[115] This will be augmented in 2012 by the addition of a further 144 flashing lights in school areas yet to be identified. A total of $13 million has been committed for this purpose over the next four years, resulting in an overall increase of 540 flashing lights by the end of 2015.[116]

[112] Submission 13, IPWEA (NSW) Roads and Transport Directorate, p6.

[113] Submission 16, ARRB Group Ltd, p1.

[114] Transcript of Evidence, 16 November 2011, pp4-5.

[115] Roads and Maritime Services, 28 November 2011, accessed at http://www.rta.nsw.gov.au/roadsafety/children/schoolroadsafety/schoolzone_list.html

[116] NSW Legislative Assembly Questions and Answers Paper No. 59, 9 November 2011, Question 1061.

4.30 The NSW Auditor-General, appearing before the Committee, in commenting on the cost of the provision of flashing lights, made a recommendation to offset this cost in the following way:

> There seems to be an issue relating to the cost of these flashing lights. If you do the sums it suggests that it is $120,000 for each flashing flight. When questions were asked in Parliament it suggested that the figure was a lot less than that. I think there has to be clarity about how much it costs for these flashing lights. I recommended that, if it costs a lot of money to put in a flashing light, perhaps they should consider differential fines. If you go through a normal school zone you get fined a normal amount. However, if are fined as a result of driving through a flashing light and you have been warned, perhaps you should be fined a bit extra.[117]

4.31 The Committee supports this approach and will comment on it further in Chapter 7.

Speed Cameras

4.32 Fixed speed cameras have already been discussed as part of the enforcement section in Chapter 2 of the Report. A related issue raised at public hearings concerns the suggestion of directing the revenue gained from these cameras to road safety funding. In response to questions based on a recommendation made by the Auditor-General that the amount of revenue raised by such cameras be published and reinvested in road safety projects[118], the Centre for Road Safety responded:

> The Government announced last week the intention to explore hypothecation of road safety funding from speed cameras. We believe this is a fantastic initiative. It has already been implemented by other States including Queensland, Victoria, South Australia and Western Australia. In fact, in Western Australia about 70 per cent to 80 per cent of the funds are diverted. They are moving towards 100 per cent of speed camera fines being diverted to road safety. We also feel this would increase public acceptance because speed cameras are a fundamental road safety tool that have been proven, and were proven recently by the Auditor-General, to make a difference in road safety outcomes and to reduce fatalities and injuries on our roads.[119]

4.33 The Committee endorses this approach as a means of restoring public confidence in the collection of revenue derived from the operation of fixed speed cameras and supports their installation and operation in accordance with the criteria previously described in Chapter 2.

Electronic Devices

4.34 Advances in electronic communication provide further scope for safety improvements by use of in-car devices to advise drivers who are about to enter school zones of speed limits applying. GPS devices are also referred to in the NSW Auditor-General's School Zones Performance Audit. The Audit Report recommended that school zone locations be made available to all GPS users and the Auditor-General, in evidence to the Committee, said:

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[117] Transcript of Evidence, 21 November 2011, p59.

[118] Improving Road Safety School Zones, Performance Audit, Audit Office of NSW, February 2010, p4.

[119] Transcript of Evidence, 16 November 2011, p5.

> …a GPS system has to be introduced as the data is there. Some of the private GPS companies have got it, but it is not official. We recommended that the official information from the Roads and Traffic Authority be made available to TomTom and other companies so when people are driving along a bell goes off in their car to alert them to the fact that there is a school zone in the area.[120]

4.35 When questioned about this by the Committee, the Centre for Road Safety reported that:

> We are currently completing a project called the speedlink project in which we have collected all of the speed zone data across New South Wales. This has been a major three-year data collection exercise and we are currently validating that data. We are also ensuring the update process is current so that every time a speed zone changes that update will feed back into the system. In October last year we released our trial of Intelligent Speed Adaptation, which is a global positioning-based system that advises motorists of the speed limit of the road they are travelling on and gives them a warning if they are exceeding that speed limit. That trial used over 100 participants in the Illawarra region and proved that there are significant road safety benefits associated with what we call ISA—Intelligent Speed Adaptation. We are currently developing a smartphone application using Intelligent Speed Adaptation that will hook onto our speed link map and we are seeking to provide that free of charge because in road safety benefit terms the more people who comply with speed limits and have devices that assist them to comply with speed limits, the better the road safety outcome…We have had the first prototype in the last week. We envisage that to be available mid to late next year.[121]

TREATMENT SELECTION

4.36 As previously discussed, a range of measures have been implemented to mitigate pedestrian risks in school zones. In addition to the assessment tools already described which determine the treatments deployed at specific locations, local input is also sought to ensure that individual circumstances and needs are adequately accounted for in decisions made about the appropriateness of various treatments.

4.37 The Safety Around Schools program was established in 2001 and is a bottom up approach driven by local communities and regional staff who can make representations about individual school sites to a regional Safety Around Schools Coordinator. The program involves the Child and School Communities Road Safety Partnerships Manager at the NSW Centre for Road Safety. Each of the six Roads and Maritime Services regions has a full time Safety Around Schools Coordinator and one or more full time school crossing supervisor coordinator/s.

4.38 The regional Safety Around Schools Coordinators work with individual schools to address road safety issues that occur outside the school gate, including:

- Liaising with school communities, councils (including Road Safety Officers) and other agencies on road safety issues to improve safety around schools;

[120] Transcript of Evidence, 21 November 2011, p58.
[121] Transcript of Evidence, 16 November 2011, p5.

- Liaising with other stakeholders, such as education sector road safety education consultants/advisors, Roads and Maritime Services representatives on local traffic committees, NSW Police and local councils (including providing information to Traffic Committees) to identify/address road safety issues;
- Identifying priority engineering projects in school zones;
- Auditing school zones – signs, patches and dragon's teeth;
- Investigating any incidents within school zones; and
- Assessing school zones for flashing lights and advising when maintenance is required.

4.39 In addition to the stakeholders listed above, education agencies (including the NSW Department of Education and Communities, the Catholic Education Commission NSW and the Association of Independent Schools of NSW) and/or the Office of the Board of Studies NSW provide Transport for NSW and Roads and Maritime Services with advice on approved new school sites or existing school sites being redeveloped to ensure appropriate zoning and educational support are provided.[122]

4.40 These issues also relate to planning and land use considerations, particularly for new school sites, and will be developed further in Chapter 6.

4.41 The Institute of Public Works Engineering Australia (NSW) membership claims that the NSW Department of Education and Communities is reluctant to assist with the provision of appropriate and necessary traffic management infrastructure for school zones in the following categories:

- On site parking for staff and secondary students;
- Bus facilities;
- Crossing provisions and traffic calming;
- Kiss and ride;
- Pedestrian and cycling facilities; and
- School signage.[123]

4.42 The Federation of Parents and Citizens' Associations of New South Wales similarly asserts that consultation mechanisms do not always provide appropriate outcomes when planning treatments in school zones. Additional information formation supplied by the Federation to the Committee states:

> In our submission we provided the information provided by schools across the range of options currently available to support safety around school zones. There were also

[122] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.
[123] Submission 13, IPWEA (NSW) Roads and Transport Directorate, p6.

> a number of concerns and most of these were around either lack of consultation or statutory bodies not considering the requests of the school or parent body.[124]

4.43 As indicated in Chapter 2, the auditing of school zones provides an opportunity to service and maintain the effectiveness of the physical infrastructure and to adjust the range of treatments used to meet changing circumstances. The NRMA strongly supports regular inspections and audited remediation of poorly placed and badly maintained road signage. This view is also reflected in other submissions to the Inquiry.

4.44 The Committee supports this view and considers that systematic and rigorous inspections and validation of existing treatment options is essential for the integrity of the safety program governing the operation of school zones. While specific physical safety infrastructure and targeted interventions have been employed with varying degrees of success, it is important to optimise the effectiveness of these measures. Regular and research based evaluation allows road safety agencies to refine current strategies and tailor additional measures to suit particular conditions and requirements.

[124] Federation of Parents and Citizens' Associations of New South Wales, Answers to Supplementary Questions, 20 December 2011.

Chapter Five – Road Safety Education

5.1 An important part of protecting young pedestrians is the provision of effective road safety education. Skills learned while attending school help to safely negotiate complex traffic conditions as students grow older. It is also worth noting that the majority of accidents involving young people occur outside designated school zones. It is therefore imperative that children are taught about relevant dangers in order to improve safety in areas where restrictions are not in place.

AVAILABILITY OF CURRENT SCHOOL EDUCATION PROGRAMS

NSW Road Safety Education Program

5.2 Funding for the NSW Road Safety Education Program is provided by Roads and Maritime Services (formerly the RTA). This program is a partnership between Roads and Maritime Services and:

- the Association of Independent Schools;
- the Catholic Education Commission;
- the Department of Education and Training; and
- the Early Childhood Road Safety Education Program.[125]

5.3 The NSW Road Safety Education Program provides educational resources to all schools in NSW, as well as professional development for teachers in the field of road safety instruction. These resources are created by the Centre for Road Safety in conjunction with the appropriate educational agencies mentioned above.

5.4 Road safety is taught to all students throughout their school career from kindergarten to the end of secondary school as part of the NSW Board of Studies Personal Development, Health and Physical Education (PDHPE) syllabus. The PDHPE course and its road safety aspects are mandatory for all students. The Committee notes the importance of a strong focus on road safety education for students of all ages and supports its mandatory status in the curriculum.

5.5 According to the NSW Government, the objectives of the School Education Program are to:

- produce behavioural and attitudinal changes through programs and campaigns;
- act as an advocate for children and young people in road safety;
- provide appropriate resources for teachers and students; and

[125] Roads and Maritime Services website, http://www.rta.nsw.gov.au/roadsafety/children/schoolroadsafety/roadsafetyeducationprogram.html

- promote best practice in road user behaviour.[126]

5.6 The Road Safety Education Program, through cooperation with other agencies, produces a large range of curriculum based resources which are available to schools, students, parents and carers.

5.7 These resources are created with input from appropriate bodies to ensure that all issues are covered. For example:

> The NSW Department of Education and Communities' role is to provide educational advice and feedback during resource development. This input and feedback is provided to ensure that the resources are syllabus based, relevant to student learning needs and styles, help develop student knowledge, values, attitudes and behaviours and embrace both educational, quality teaching and current road safety research.[127]

5.8 Within the relevant curriculum, schools and teachers can then develop their own teaching and learning programs based on the outcomes and content of the NSW Board of Studies' Syllabus and available road safety measures.

Road Safety Education Consultants

5.9 The work done within schools is supported by Road Safety Education Consultants. According to the Department of Education and Communities, "These officers are responsible for the delivery of road safety education professional development and curriculum support to teachers in primary schools and high schools. They also provide Departmental policy advice to schools about road safety and review school road safety management practices to achieve a safe school environment."[128]

5.10 The Department of Education and Communities has ten Consultants, available to cover all schools across NSW. The Committee heard concerns from Waverley Council, however, that Consultant numbers were insufficient, particularly in regions with a large number of schools, leading to road safety education being neglected in certain schools.

5.11 Transport for NSW told the Committee that, "In 2010, 348 government schools received professional learning support to enhance the teaching of road safety education in their school"[129] and the Department of Education and Communities stated that between 1 January 2008 and 25 November 2011, 65 per cent of all schools in the Sydney Region received professional learning consultancy support.[130]

5.12 Considering the important work done by Road Safety Education Consultants, and the belief of some councils that road safety education is suffering due to a lack of

[126] Submission 25, NSW Government, pp26-27.

[127] NSW Department of Education and Communities, Answers to Supplementary Questions, 6 December 2011.

[128] NSW Department of Education and Communities Curriculum Support website, http://www.curriculumsupport.education.nsw.gov.au/secondary/pdhpe/pdhpe7_10/pdhpe7_10/health_education/rsesec_002.htm

[129] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.

[130] NSW Department of Education and Communities, Answers to Supplementary Questions, 6 December 2011.

support, the Committee is of the opinion that consideration should be given to increasing the numbers of Consultants employed in NSW.

Community Based Education

5.13 In addition to school based education, there are also a number of other opportunities for young people to learn appropriate road safety behaviour. Organisations such as the NSW Police, the NRMA, the Rural Fire Service, Rotary groups and the Scouts provide road safety education. The Committee has previously reported on the wide range of expertise available from emergency service personnel, health professionals and community members.

5.14 In its Report on Young Driver Safety and Education Programs, the Committee recommended that:

> In relation to school based road safety education programs, the Committee recommends that appropriately vocationally qualified and experienced road safety practitioners participate in the delivery of the PDHPE curriculum by presenting material in a different format to that delivered by the classroom teacher. This material would have to be endorsed by the RTA and the DET.[131]

5.15 The Committee is still of the opinion that there is scope for increased involvement in road safety education for appropriately qualified and experienced road safety practitioners, in order to deliver the best possible learning experience to young people.

5.16 When this issue was raised with Transport for NSW, the Committee was informed that "The decision to access externally provided programs is a decision made by individual schools".[132] This was echoed by the Department for Education and Communities who added that, "external programs and experience should supplement, not replace the teachers teaching the syllabus." The Department also highlighted its reasoning :

> Evidence indicates that road safety education and other health programs should be delivered by class teachers. In *The Classroom Teacher as a deliverer of effective road safety education*, Di Pietro and Davies (1999) assert that teachers are considered to be the best placed professionals to deliver road safety education in schools … because they know and have an existing relationship with students and are more likely to be fully aware of the local school context and background experiences of students.[133]

Bus Safety

5.17 Risks involving buses in and around school zones were highlighted in Chapter 3 and reiterated by a number of stakeholders. This is recognised in current education policies which contain specific components of road safety education aimed at bus safety.

5.18 The NSW Government told the Committee that:

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[131] Joint Standing Committee on Road Safety, Report on Young Driver Safety and Education Programs 1/54, p56.

[132] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.

[133] NSW Department of Education and Communities, Answers to Supplementary Questions, 6 December 2011.

> Bus safety is a component of the *Move Ahead with Street Sense* road safety education resource delivered to each NSW primary school since 2000. The resource includes stage-appropriate bus safety teaching and learning activities.[134]

5.19 Safety messages for students change as they progress through the school years. In the early years, it is impressed on children to "Wait until the bus has gone, then use a safe place to cross the road."[135] In secondary school, decision making skills are taught and the dangers of crossing behind large stationary vehicles, such as buses, are highlighted as part of the road safety education program.

5.20 Resources created by Roads and Maritime Services include stickers, posters, pocket-sized booklets and activity sheets which all reinforce these main safety messages. Such resources are used not only in schools but also by bus companies and community groups such as the Scouts.[136]

5.21 In addition, the Committee learnt that the Minister for Transport has established the NSW Government School Bus Safety Community Advisory Committee to examine issues relating to the safe transport of children in rural and regional areas. The Advisory Committee will recommend the most effective ways to make school bus travel as safe as possible.[137]

5.22 Following a recommendation made to the Minister for Education at the conclusion of a coronial inquest into the bus related death of a student in 2009, the Department of Education and Communities will develop a response to this recommendation. Part of this response involves the development of an online resource by the Department's NSW Curriculum and Learning Innovation Centre, which will consist of learning and teaching activities for students. The Department of Education and Communities and Transport for NSW will collaborate in the development of this resource which is due for publication in Semester 2, 2012.[138]

5.23 The Committee also notes that Roads and Maritime Services is currently planning a project to refresh the safety around buses resource material. The Committee will monitor these developments and supports any projects which increase bus safety awareness.

Age Appropriate Education

5.24 A key part of a successful education program is ensuring that it is age appropriate. Students face different risks at varying stages of development as highlighted in Chapter 3. Consideration must therefore be given to the most effective ways of ensuring that information is properly received and processed by children at age-specific learning stages.

5.25 In its submission to the Committee, Youthsafe highlighted the benefits of a "life-skills-based approach" to education strategies:

[134] Submission 25, NSW Government, p30.
[135] Ibid, p29.
[136] Ibid, pp28-29.
[137] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.
[138] NSW Department of Education and Communities, Answers to Supplementary Questions, 6 December 2011.

> To develop life skills a combination of knowledge, attitudes and practical skills is required … Motivation and capability is as important as knowledge…
>
> Life skills-based education for young people relies on content that is relevant to and effective in their lifestyles and teaching/learning methods need to be participatory or interactive to achieve a combination of knowledge, attitude and skills development.[139]

5.26 The submission notes that an important factor in creating effective health education programs is:

> Ensuring materials and activities are age-appropriate, targeting young people in different age groups and at different stages of development with suitable and relevant messages and gender sensitivity, to accommodate both males and females.[140]

5.27 This approach is supported by current NSW Government policies, with the Department of Education and Communities confirming that:

> The NSW Personal Development, Health and Physical Education K-6 and 7-10 syllabuses are structured to be age and developmentally appropriate for content and concepts. For example, in the primary and early secondary years, the road safety components focus on influences on pedestrian, passenger and wheeled-device behaviours. These are the most common ways in which young people use the road environment, including when travelling to and from school.[141]

5.28 Similarly, for primary school students, more information and resources are available which are aimed at parents as they have a greater role to play in educating and influencing the behaviour of child pedestrians. Parents are also more likely to be directly involved in child supervision while in the road environment. For parents who have children attending school for the first time, Roads and Maritime Services offer the Kindergarten Orientation Day road safety resource. This provides relevant information based on the fact that children will probably have a greater exposure to traffic and the related risks in school areas.

5.29 Throughout primary school, pedestrian safety measures are built upon and key messages include: "Until they are at least eight years old, children should hold an adult's hand on the footpath, in the car park and when crossing the road."[142] Subsequently, between the ages of eight and ten students begin to learn more about the dangers involved but should still be closely supervised in the traffic environment and hold an adult's hand when crossing the road. Finally, when students are in the last years of primary school, the emphasis is on *Stop! Look! Listen! Think!* when crossing the road and ensuring a safe place to cross is identified.

5.30 Education programs aimed at secondary school students recognise that they are becoming more independent and more likely to be walking further to school on their own. As such, messages for these students emphasise the importance of

[139] Submission 17, Youthsafe, p5.

[140] Ibid, p7.

[141] NSW Department of Education and Communities, Answers to Supplementary Questions, 6 December 2011.

[142] Submission 25, NSW Government, p28.

identifying hazards from vehicles and the environment, choosing the best place to cross the road, not assuming that drivers will stop and understanding the statistics on road injuries and fatalities. [143]

5.31 The propensity of adolescents, particularly male adolescents, to indulge in risk taking behaviour is also taken into account, as described by Transport for NSW:

> Students are provided with opportunities to become more aware of the decision making processes so they can increase the options available to them and predict likely consequences. Students learn to explore road safety statistics to analyse reasons for gender related differences in road-related injury; devise and demonstrate plans to assume responsibility for their road safety and that of other road users; examine the relationship between risk factors, environments and laws and rules determining road user behaviour.[144]

5.32 The NSW Government also told the Committee that these messages and education strategies are supported through a large range of resources including, teacher booklets and student videos, worksheets, full-colour photographs, story books, song and story cassettes and CDs, board games, posters and stickers.[145] This variety of resource components should help to ensure that the messages are appropriately delivered to students at all stages of their schooling.

Road Safety and the Australian Curriculum

5.33 New South Wales is the only State in Australia which has mandatory road safety education as part of its school curriculum. This is a well supported policy which was favourably mentioned by a majority of stakeholders and is also endorsed by the Committee.

5.34 The Federal Government is currently in the process of developing a national curriculum through consultation with all Australian State and Territory governments and all other relevant stakeholders. Concerns were raised with the Committee that the strong curriculum focus on road safety as part of the NSW syllabus may be lost in a national curriculum, whether intentionally or through oversight.

5.35 When asked about the possibility of the road safety focus being lost, the Catholic Education Commission stated:

> I do not think there is any deliberate intention; there is a danger of it being overlooked. As I understand it, we have the most explicit inclusion of road safety education in the curriculum so when it comes to a national meeting New South Wales will be just one voice.[146]

5.36 These concerns have been recognised by the Centre for Road Safety which intends to ensure that NSW is well represented in the development of a national curriculum. The Committee was told that:

[143] Submission 25, NSW Government, pp28-29.

[144] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.

[145] Submission 25, NSW Government, p28.

[146] Transcript of Evidence, 16 November 2011, p23.

> The Centre for Road Safety has been advocating that road safety education be included as an essential component of the Australian Health and Physical Education curriculum. We have been working with other jurisdictions to make submissions to the Australian Curriculum, Assessment and Reporting Authority, which is developing the curriculum.[147]

5.37 This was echoed by the Department of Education and Communities, who highlighted:

> What is important for the Committee is that the three sectors— independent, Catholic and public—are very much involved in the Board of Studies, which is our authority, which is charged with taking the national curriculum framework and developing the New South Wales syllabuses for this State. It has been clearly articulated by the board president and the Minister on a number of occasions that in doing that translation we will not be watering down what we consider to be the critical elements of our current syllabus requirements. I would concur that that would include the emphasis that we have always had on road safety being a critical part of the Personal Development, Health and Physical Education curriculum.[148]

5.38 Despite these concerns, there was a suggestion that NSW would be able to maintain its own focus on road safety, despite the existence of a proposed national curriculum. According to the Federation of Parents and Citizens' Associations of New South Wales:

> Our belief with a national curriculum is that anything that is not covered by the national curriculum in New South Wales can still have their own curriculum underneath that, so therefore there would be an opportunity to continue to have that level of embeddedness in our curriculums in schools.[149]

5.39 Nevertheless, the Committee recognises the importance of road safety education in NSW and the part it has played in reducing casualties and fatalities in recent years. The Committee sees this as an important part of a national curriculum and is of the opinion that other States and Territories could benefit from the proposed national curriculum adopting the NSW policy of mandatory road safety education for all students.

EFFECTIVE EVALUATION OF SCHOOL BASED PROGRAMS

5.40 An important part of safeguarding effective education programs is ensuring that they are properly assessed to maintain high standards and to enable modification in response to changed circumstances.

5.41 According to the NSW Government:

> The NSW Centre for Road Safety has routinely conducted independent, whole of program evaluations of the School Road Safety Education Program to assess the:
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> - extent to which road safety education is delivered in school programs;

[147] Ibid, p16.
[148] Ibid.
[149] Ibid, p29.

- nature and level of road safety education provided by the education agencies and
- level of awareness and usage of the road safety education resources.[150]

5.42 The NSW Government submission highlighted the fact that results have largely been positive in terms of the participation of schools in the education program and the appropriateness of the teaching resources:

> The most recent independent program evaluation, found that almost all NSW schools taught road safety education during the period reviewed. For primary schools 99% taught it and in secondary schools 97% taught road safety education. The teaching resources were regarded as high quality with the majority of teachers rating them as relevant, very suitable for their students and well linked to the syllabus.[151]

5.43 As part of the road safety education program, professional development courses are also provided for teachers. The Committee understands that these are assessed through feedback from the teachers involved and have received similarly positive reviews.

5.44 The Government also drew the Committee's attention to an independent and external evaluation performed in 2009, which involved the interviewing of 1,612 current and former students in NSW schools in both rural and metropolitan areas.

5.45 The evaluation aimed to assess the penetration and recognition of road safety education by these students, and found positive results so that:

> An overwhelming majority of students recall material about road safety that has been covered in primary or secondary school; the key messages recalled are consistent with those highlighted in the NSW Centre for Road Safety's educational resource materials.[152]

5.46 A very high proportion of students interviewed showed evidence of exposure to key themes of the road safety education program's materials. 98 per cent recalled road safety experiences from high school and 97 per cent recalled experiences from primary school.

5.47 As outlined earlier in this Chapter, these key themes include the risks faced by pedestrians, particularly in the school traffic environment, how to behave safely as a pedestrian and the importance of safe practices involving bus travel. Despite this, a common complaint from other stakeholders was the lack of information available on the assessment of teaching materials and practices or the assumption that assessment did not take place.

5.48 For example, in its submission to the Committee, Kidsafe NSW wrote that:

> The RTA and DET provide a lot of resources for road safety education but there needs to be an effective strategy for evaluation of these programs particularly in

[150] Submission 25, NSW Government, p27.

[151] Ibid.

[152] Taverner Research 2009, presented in Submission 25, NSW Government, p27.

> terms of the take up rate by schools and implementation of road safety education initiatives in the curriculum. Consideration could be given to including road safety education initiatives in the Annual Reporting requirements for NSW schools.[153]

5.49 The NSW Auditor-General recognised that assessment of the road safety education program took place but also suggested that further evaluation or evaluation with a different focus would be beneficial, as follows:

> The RTA advises that it has surveyed the effectiveness of the road safety education program for school children and found that school-leavers have a strong recall of road safety messages. However, we are unaware of any evaluation of whether it has modified the behaviour of children and their parents or carers around schools.[154]

5.50 Considering the evaluation conducted and referred to earlier and the generally positive results obtained, the Committee is of the opinion that more should be done to publicise the work done by the Government in this area. Although including such initiatives in school Annual Reports may be unnecessary, making the information easier to access would be a positive move.

ALTERNATIVE EDUCATION STRATEGIES

5.51 While road safety education for students generally takes place within the school environment, there are also other avenues for supporting the safety of young pedestrians.

Road Safety Officers

5.52 The Local Government Road Safety Program includes 77 Road Safety Officers employed full time across 89 councils. Road Safety Officers plan, develop and implement community road safety educational and behavioural projects within their local Council areas. They also raise the priority of road safety within local councils. Officers are encouraged to collaborate with local representatives from other appropriate agencies (such as the NSW Police, Roads and Maritime Services, and the Departments of Health, and Education and Communities) and appropriate organisations to achieve effective road safety project outcomes.

5.53 In addition, according to Transport for NSW, Road Safety Officers play an important role in assisting and supporting projects to improve safety in and around school zones:

> Road Safety Officers are particularly encouraged to work with their school communities including teachers and parent groups, to assist with programs about road safety issues around each particular school.[155]

5.54 This work was further highlighted by other stakeholders. For example, the Australasian College of Road Safety told the Committee that:

> There have been quite a number of different school programs run typically by road safety officers from the Roads and Traffic Authority, now Roads and Maritime

[153] Submission 23, Kidsafe NSW, p5.

[154] Improving Road Safety School Zones, Performance Audit, Audit Office of NSW, February 2010, p18.

[155] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.

> Services, and many of them have been very effective in bringing down speed. Many of them are school based and there are signs that say, "Slow down to 40 for me", for children. Many of those are very effective.[156]

5.55 Similarly, the Institute of Public Works Engineering Australia (IPWEA) brought the Committee's attention to work done by Road Safety Officers in the Dungog Council area. These Officers devised a project in conjunction with local schools which was able to reduce speeds in the selected school zones by more than 10 per cent by improving warning signs and increasing information regarding school zone restrictions.[157]

5.56 This project was also submitted to IPWEA as part of its annual Awards program in the road safety category. The Committee is supportive of the work done by Road Safety Officers across NSW and has highlighted the importance of the work they carry out in previous reports.

5.57 The Committee also notes the potential for sharing best practices amongst councils and Road Safety Officers through mechanisms such as the IPWEA Annual awards system and the potential benefits of expanding such a system. A similar suggestion was made by Kidsafe NSW whereby:

> Road Safety Consultants at the Department of Education and Communities could be used to promote Road Safety Champions – that is those schools who have introduced innovative road safety initiatives that have been successful.[158]

5.58 On the basis of a rigorous assessment process, this is an idea which has merit. Although there are a wide variety of schools across the State, any innovation which can be easily adapted to a new environment and improve safety would be beneficial to young pedestrians in NSW.

Road Safety Officer Funding

5.59 Concerns were raised with the Committee regarding the ongoing funding for the Road Safety Officer program. The current funding agreement provides for 100% Roads and Maritime Services funding of a position in the first year and 50% for subsequent years, with the other 50% being paid by the relevant local government authority. According to information available on the Transport for NSW website, the NSW Centre for Road Safety has only committed to this funding until 30 June 2012.

5.60 The potential shortfall in funding beyond the middle of this year means that many councils are unable to attract or retain high quality staff in the Road Safety Officer role due to the uncertainty of continuing employment.

5.61 In its submission to the Committee, the Institute of Public Works Engineering Australia (NSW) stated that the lack of funding was a concern for a significant number of its members and:

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[156] Transcript of Evidence, 21 November 2011, p7.

[157] Submission 13, IPWEA (NSW) Roads and Transport Directorate, p10 and Attachment.

[158] Submission 23, Kidsafe NSW, p5.

> This uncertainty has prompted many excellent Officers to resign and seek alternative employment [which] represents a loss of expertise.[159]

5.62 The lack of Road Safety Officers available to councils is currently causing confusion, as explained by Waverley Council:

> Our neighbouring council, Randwick, does happen to have a road safety officer; Woollahra does not. It would be helpful if we could all work jointly on specific school zone safety programs. My understanding is that the contract between the Roads and Traffic Authority and local governments that do have road safety officers, there are certain restrictions upon what activities they can do in combination with councils that do not have road safety officers, so it is not really enhancing safety.[160]

5.63 As previously stated, the Committee is supportive of the work done by Road Safety Officers and is concerned that their numbers may be decreasing across the State. A strong commitment to the continuation of joint local government funding is essential to encourage more councils to participate in the program.

Adult Education

5.64 A recurring theme in evidence gathered by the Committee is that despite the success of the school zone policy, confusion remains for motorists and parents about rules applying around school zones.

5.65 Previous chapters have commented on the risks caused by parents and carers failing to adhere to school zone restrictions by double parking and stopping in no-stopping areas. A common explanation for this behaviour was that parents were unsure of the exact nature of the regulations.

5.66 The Catholic Education Commission told the Committee that:

> It is a major challenge for all school communities to try to educate parents about safe areas to park, reiterating the parking legislation and reinforcing positive parent behaviour in picking up and dropping off students.[161]

5.67 School zones become very busy during the peak hours in the morning and afternoon when many children are being picked up and dropped off. Traffic congestion is compounded by unrelated through traffic. As well as being a stressful time with many distractions for younger pedestrians, it can also be difficult for motorists to concentrate on the relevant road rules and recall important safety information.

5.68 A common suggestion, such as that expressed by the Federation of Parents and Citizens' Associations of New South Wales, was that:

> There needs to be an improved road safety education program for the adults who frequently drop children or pick them up, as well as other road users who drive past schools and through school zones each day.[162]

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[159] Submission 13, IPWEA (NSW) Roads and Transport Directorate, p3.

[160] Transcript of Evidence, 16 November 2011, p45.

[161] Ibid, p23.

[162] Submission 7, Federation of Parents and Citizens' Associations of New South Wales, p6.

5.69 As mentioned earlier in this Chapter, the NSW Government does involve parents, particularly those of younger children, in the road safety education process and this includes advice about appropriate behaviour for motorists.

5.70 Primary schools host Kindergarten Orientation Day which has a road safety element and includes material for parents of high school students. For example, Youthsafe, in partnership with Roads and Maritime Services, has developed and promote a parent information fact sheet entitled: *On the way to high school: Helping teenagers to travel safely*, which covers important road safety factors for adolescents travelling to and from high school. This is distributed to primary and high schools across the State.[163]

5.71 The Department of Education and Communities also understands that there are problems associated with parents and carers in school zones and are trying to rectify the issue. The Committee was told that:

> We continually look at that behaviour management or change of behaviour of the adults in school zones during morning and afternoon.[164]

5.72 Parents and carers also have an important part to play in educating their children in best practice behaviour relating to road safety. This is recognised by the NSW Government which told the Committee:

> Parents can influence the behaviour of a child pedestrian and are key role models in demonstrating safe pedestrian behaviours.[165]

5.73 Any reinforcement of these best practices through improved education for adults will, therefore, help to ensure that the information passed on to children will be up-to-date and appropriate.

5.74 It appears that there are educational resources aimed at adults made available by Roads and Maritime Services. The Committee recognises the point made by the Department of Education and Communities that:

> Schools have access to resources through the NSW Centre for Road Safety to assist in educating their parents and carers in maintaining a safe local traffic environment.[166]

5.75 Nevertheless, the Committee notes that there is some confusion even between departments. On the subject of bus safety, Transport for NSW highlighted that there was a wide variety of brochures and other publications which had messages aimed at parents and carers regarding safe conduct in bus zones.

5.76 Evidence provided in response to Members' questions on notice regarding materials available alerting parents of the dangers of dropping children off at bus stops, by the Department of Education and Communities, however, suggested that: "The resource is aimed at students to support teaching and learning as part

[163] Submission 17, Youthsafe, p7.

[164] Transcript of Evidence, 16 November 2011, p9.

[165] Submission 25, NSW Government, p28.

[166] NSW Department of Education and Communities, Answers to Supplementary Questions, 6 December 2011.

of Personal Development, Health and Physical Education programs. There are no plans to include a parent education component."[167]

5.77 As these materials are an important aspect in educating parents and carers on how to behave in school zones to improve the safety of everyone involved, it is clear that they need to be easily available. Parents and carers may benefit from these materials being better publicised so that they are aware of their existence and their usefulness.

Improved Awareness

5.78 In addition to parents and carers and other motorists who have school related business, there are also a large number of motorists who drive through school zones on journeys unrelated to school activities.

5.79 The Committee found that people who were not specifically utilising school zones still lack some basic information on how they operate. As stated previously, evidence collected by the Committee suggests that most motorists are supportive of school zones and do not wish to endanger young pedestrians. Nevertheless, the lack of accessible information means that some motorists are unwittingly breaking the rules.

5.80 The Committee notes that not all motorists are aware of the special restrictions and additional penalties which apply within school zones. The Committee appreciates that motorists are responsible for being aware of changing road rules and according to Transport NSW:

> All rules relating to School Zones are located in the Road Rules. The NSW Road Users Handbook also provides a clear outline of the rules within school zones.[168]

5.81 Nevertheless, the Committee heard from a number of motorists, particularly those who drive infrequently or who have held their license for some time, that they were aware of the general nature of school zone restrictions but not necessarily specific penalties. The Committee supports any additional efforts to publicise the penalties and special restrictions which occur in school zones.

5.82 Another issue raised is that those motorists who do not drive often or who do not have school aged children often experience confusion surrounding the days of operation of school zones. Throughout NSW, there are various schools which have different term-times and holidays. Parents who send their children to an independent school may not be aware of the operating period for school zones in State schools and vice versa.

5.83 Similar confusion can also arise on pupil free days where motorists may not be aware that the school has re-opened as there are no students present. The Committee understands that the rationale for maintaining school zones on pupil free days is that some students may still be attending school but acknowledges the confusion and frustration this can cause motorists.

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[167] Ibid.

[168] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.

5.84 The Committee does note the work done by the NSW Police Force in getting information out to the public. The Committee heard from NSW Police that:

> Certainly we do in discussions and media releases talk about school zone operations. In the week before the first week of school going back I am always on the radio and in the press saying, "School's back, please slow down, young lives" et cetera. We do use that to the best ability we can.[169]

5.85 Consideration should be given, however, to further raising awareness of the days of operation for school zones throughout the State, particularly when these days may appear unclear to people who are not directly affected by school operations. A potential solution considered by the Committee is to increase the number of flashing lights to alert motorists of an operational school zone. This matter is discussed further in Chapter 7.

5.86 As stated throughout the Report, the Committee is in favour of school zone restrictions and endorses their effectiveness. It appears, however, that this information is not well known or appreciated by the wider public. In general, motorists are supportive of improving safety for young pedestrians but they do not seem to appreciate all the positive effects of school zones.

5.87 When asked whether publicising the benefits of school zones would increase public support and improve compliance, the University of NSW Transport and Road Safety Research Group told the Committee:

> Definitely. I think any sort of media coverage showing the benefits should be widely publicised. The community needs to know, particularly the driving community, that these are having a positive effect otherwise people drive through these areas wondering why they are driving at those lower speed limits. The problem is that the average driver or pedestrian is not aware of the biomechanical relationship between the speed of a vehicle and being injured.[170]

5.88 In addition, lower speeds in school zones have led to less vehicle crashes and can improve traffic flow in crowded areas. The additional benefits of school zones to motorists and pedestrians, as well as their success in reducing casualties and some of the rationale for the restrictions could form part of an educational campaign aimed at motorists. Such a campaign would reinforce the safety message and improve compliance.

5.89 Another issue raised with the Committee relates to alerting motorists to the existence of a school zone. Currently, the entrance to a school zones is marked with signage and also dragon's teeth where appropriate. Evidence provided by the NRMA recommended an increase in sign visibility, which is covered elsewhere in this Report.

5.90 The Committee also heard concerns that the public does not always understand that the aim of dragon's teeth is to encourage motorists to slow down as they approach a school zone. These road markings may also benefit from increased

[169] Transcript of Evidence, 21 November 2011, p56.
[170] Ibid, p53.

awareness campaigns. When this was brought up with the Centre for Road Safety, they noted that:

> The road marking was based on a technical guideline but what we can do is look for opportunities to further communicate to the community the meaning of the dragon's teeth as an added measure to denote the commencement of a school zone, and we will look for those opportunities.[171]

5.91 Another method to alert drivers that they are entering an active school zone is through global positioning data being made available in electronic form in car systems or phone applications. As long as all school zones are recorded correctly, the global positioning system can then alert the driver that they are entering a school zone. As previously noted in Chapter 4, this system should become operational later this year and the Committee will monitor the situation with interest. With appropriate marketing and promotion, this may result in greater take-up by motorists.

[171] Transcript of Evidence, 16 November 2011, p13.

Chapter Six – Standardisation of School Zone Operations

6.1 A major and recurrent theme throughout the Inquiry is the extent to which a uniform and standardised approach to school zones provides the most cost effective and optimal solution to managing the risks associated with student safety around school precincts. In the referral from the Minister for Roads, particular emphasis was placed on whether current measures are effective and how school zones can be simplified for motorists.

6.2 Underpinning any regulatory approach to managing public safety is a planning framework, which sets the broad directions for implementing activity based outcomes and policy prescriptions. There is always administrative tension between the desire for regulatory certainty and the flexibility to respond to specific circumstances to meet localised needs.

6.3 In the National Road Safety Strategy 2011-2020, reference is made to the significance of land use planning decisions within the Safe System approach to road safety, whereby the road transport system is considered in its totality.[172] Effective planning should ensure that road systems respond to local needs and conditions and that infrastructure investment is directed to prevent or minimise crash risks and provide high safety returns.

ROAD DESIGN

6.4 The shape of the road system determines mobility patterns and transport connectivity and its design and operation are integral parts of land use planning. Multi-modal planning, encompassing vehicles, pedestrians, cyclists and other road users, enables the competing demands of all users to be met in the most efficient way, while ensuring that mobility, access and safety are not compromised.

6.5 As part of the current Inquiry, the Committee has taken evidence based on current school locations and access routes and their impact on road user safety. Conclusions reached by the Committee also have applicability for future planning decisions and this will be discussed later in the Chapter.

6.6 It should also be noted in this context that the Committee requested input from the Department of Planning and Infrastructure and this was only provided in the form of written responses to questions after the public hearings had been concluded. The Committee is disappointed that the Department of Planning and Infrastructure did not participate more fully in the inquiry process by sending representatives to give evidence and expand on relevant sections of the NSW Government submission.

6.7 The vital role of planning in the road safety arena was acknowledged by the Acting General Manager of the Centre for Road Safety:

[172] National Road Safety Strategy 2011-2020, Australian Transport Council, p51.

> The only comment I want to make is that land use planning plays a critical role. The placement of a school on an arterial road and the placement of a direct access point really impact on what we need to provide by way of traffic facilities and safety protection. The safety considerations need to be taken up-front in those land use planning decisions.[173]

6.8 A repeated theme raised in submissions and other evidence is the inconsistency of the location of school access roads in relation to school entrances and, consequently, the lack of standardisation in the delineation of school zones. The perimeter of school zones often takes in parts of road reservations not directly adjacent to the school itself. As described in one submission to the Inquiry:

> School zones should only be in place where children actually cross the road or utilise the roadside area. I believe that there are many locations where the school zones are in place, but where no children ever cross the road or enter the road area. This is particularly noticeable on main roads where there are often no children ever seen crossing or near the road. Thus when motorists see no children they can become blasé and tend to ignore the zones. Examples of this can be seen on the Central Coast Highway at East Gosford where there are two School zones. Both schools have bus and parents pick up and drop off areas in the side streets. At no time do cars stop to drop off or collect children on the Central Coast Highway as the highway is marked "No Stopping". No child crosses the highway to or from a vehicle.[174]

6.9 A similar concern is echoed in the submission from the Institute of Public Works Engineering which cites the case of a school in North Nowra, where there is no access to the school from the highway and no crossing facilities, but the traffic is slowed to 40km/hr.[175]

6.10 A submission received from Camden Council alerted the Committee to traffic problems associated with the Mount Annan Christian College school zone along Narellan Road. When this was raised with the Centre for Road Safety, the Acting General Manager responded:

> Effectively the Mount Annan Christian College school zone is located on Narellan Road. In my opening statement I highlighted that sometimes we need to look at direct access points into schools as an alternative measure. What the community is telling us is that there is very little volume of activity coming out from the entrance of Mount Annan Christian College onto Narellan Road. It services a bus stop. The volumes are low. We also know from a visibility-of-motorists-perspective that you actually cannot see the school when you drive by, which creates a further issue… we are quite conscious of the issue. Narellan Road itself has a default speed of 80 kilometres an hour; therefore, slowing down suddenly to 40 is an issue for motorists. The issue for motorists is that there is no visible activity and, therefore, it goes back to what I said in the opening statement that in some instances there needs to be reconsideration of the direct access point to schools because whilst that direct access point is there, we need to provide a school zone.[176]

[173] Transcript of Evidence, 16 November 2011, p4.

[174] Submission 5, Edward Ellis, pp1-2.

[175] Submission 13, IPWEA (NSW) Roads and Transport Directorate, p9.

[176] Transcript of Evidence, 16 November 2011, p14

6.11 In response to criticisms that a blanket 40km/hr zone may extend to highways which run adjacent to service roads providing direct access to schools, the Centre for Road Safety provided the following explanation:

> Effectively, you protect the entire area because of access. Whilst there is a service road, that is not to say that there will not be crossing movements or access from across the highway. Also, it has to be related very closely to bus stops, drop-off facilities, et cetera. But we can consider those locations if they are raised. With every issue that is raised—for example, the location of a service road—we can look at the local issues and the speed zone and reassess that. But at the moment our criterion is that whilst there is a direct access point we provide that school zone.[177]

6.12 Another issue is that the demarcation of the school zone itself partially dictates the nature of the infrastructure and safety measures required. This means that the range of treatments applied varies extensively from one school to another and has resulted in complaints from councils regarding the "lack of infrastructure and physical constraints which accompany the development and in some instances are a result of bad planning".[178]

6.13 At the Committee's public hearing, the Acting General Manager of the Centre for Road Safety stressed the importance of infrastructure consideration in the planning process:

> We have provided guidance in respect of the traffic treatments and the different measures that address different risks for consideration in that planning process. We have also influenced planning at any given opportunity. There is a section in the National Road Safety Strategy which raises the importance of land-use planning to improve road safety outcomes. We will be incorporating the same within the New South Wales strategy.[179]

6.14 As described in Chapter 4, a variety of treatments is deployed within and around school precincts, depending on the characteristics and safety risks associated with each location. According to the NSW Government submission to the Inquiry, "each school environment should be considered individually, and where it is feasible and cost-effective, physical barriers and other complementary road safety mechanisms should be employed. Assessment of individual sites and options should include consideration of the impacts on motorists' safety and convenience and on traffic flow."[180]

SPEED ZONES

6.15 The 40km/hr speed zone provides protection for pedestrians, with the enforced lower speed providing improved stopping distances, thereby significantly reducing the risk and severity of a crash. The Centre for Road Safety described the rationale for speed zoning in the following terms:

> Speed zoning is actually considered at a local level and therefore all crash risks and all activities occurring are a factor in the decision of the speed zone. We already

[177] Ibid, p10.
[178] Submission 4, Wyong Shire Council, p1.
[179] Transcript of Evidence, 16 November 2011, p11.
[180] Submission 25, NSW Government, p25.

> implement 40 kilometres in high pedestrian areas; we have a lower speed zone—50 kilometres—in the general urban area, but if a particular road that contains facilities, different attractions and land uses was showing a crash risk, be it pedestrian crashes or indeed vehicle crashes, we would be looking at a suitable speed zoning to actually fit that location. There is a bottom up approach to speed zoning. Over time we have actually had local communities raise speeding issues or crash issues in their local area and we respond to that through the Roads and Maritime Services regions but, more importantly, we have actually now launched a new website—on 19 July—which is very innovative; it is the Safer Roads website, where we give an opportunity for the entire community to submit issues about speed zones or indeed speed zone signage and that then triggers us to have a look at the location and to enact a review.[181]

6.16 A point of contention and source of concern raised in submissions is the variability in posted speed limits along certain stretches of roads, where there may be more than one school located and speed limits change between each one. This, in addition to uncertainty about when the zones are operational, has been a source of frustration expressed by vehicle drivers.

6.17 Suggestions have been made in submissions that councils and schools should have more influence over speed limits in their own areas. When questioned about the merits of this proposal, the representative from the Australian Road Research Board provided the following comments:

> I believe the input from the local council and the local school is important. But in the end, I think consistency across the State probably is a higher priority because in the end it is a balancing act. Councils and school communities probably feel a lack of empowerment in setting the speed zone or having an input to it. That rests with the RMS. Local traffic committees obviously try to have input into it and lobby where they can. But in the end I think consistency is a far more effective way because if I am travelling along the Pacific Highway between, say, seven and 10 o'clock in the morning and I am going through various school zones, I can be switched on to one rather than looking at individual ones.[182]

6.18 This position is also reflected by the Institute of Public Works Engineering Australia, who stated:

> Our argument would be that just as there has been rationalisation in terms of speed zones, the ability to avoid confusion—what time is this operating or where is it—is a high priority across the State. Our members reflected that. Even though they come from a parochial view of what is right for their area, there seemed to be a consistent presentation they would argue for: a standardised set of measures but at the same time the measures are not applied in a senseless fashion to areas where they make no difference whatsoever.[183]

6.19 The Centre for Road Safety is currently conducting a speed audit to assist motorists in monitoring speed limits and to reduce the number of speed limit changes across the road network. The details of the audit are as follows:

[181] Transcript of Evidence, 16 November 2011, p12.

[182] Transcript of Evidence, 21 November 2011, p15.

[183] Ibid, p20.

> We have provided the data in our submission that highlights that in the pre-and post-period for a small sample of school zones—820 zones—we reduced the average annual number of casualty pedestrians aged 5 to 16 years by 46 per cent. We are currently collating the analysis for all 10,000 school zones and we have created a spatial map that will identify the crash details for all school zones. This is a major exercise. The data collection phase is nearing completion and the next stage will involve the analysis.[184]

6.20 A more radical solution, promoted by the City of Sydney, is the imposition of 40km/hr limits in all residential and high pedestrian activity areas. The Manager of the City Transport and Access Unit told the Committee:

> The City of Sydney has long advocated for a uniform 40 kilometre an hour speed limit in all residential and high-pedestrian areas. We believe that having school zones and different speeds zones around schools make it less safe because there is no consistency in the speed limit… we believe clearing and better managing the local environment around schools is far more important than having speed zones on major State roads, which have well-defined, well-controlled and safe crossings where there is very little evidence of there having been child-vehicle conflicts. Overseas experience suggests that lower speeds in urban areas have a major impact on reducing the severity of injury in incidents and the number of incidents that occur.[185]

6.21 In advocating for the generalised 40km/hr speed limits, the City of Sydney made the additional point that:

> When it comes to the consciousness of the driver and enforceability, if you have a standardised speed limit people are going to drive 40 kilometres an hour. They do not have to remember what day it is, is it a holiday, what time of day is it, is it that 2½ hour time slot timeslot, is my clock different to the clock that the RTA is using, all those sorts of things. They just know if they go over 40 kilometres an hour they will get pinged. So you have a generally safer environment.[186]

6.22 While the Committee does not advocate reducing the speed limit to 40km/hr in all residential areas, it has in past reports recommended 40km/hr speed limits in designated high pedestrian activity zones. In the case of school zones, Staysafe supports a consistent and predictable approach to assist drivers in adhering to safer speeds. From the driver's point of view, in order to provide greater certainty of operation of the standardised 40km/hr school zones, it is also important to address the issue of when these zones are active.

SCHOOL TERMS AND TEACHING HOURS

6.23 A related factor in the effort to achieve a uniform approach to the management of school zones and to provide clear guidance to motorists about their operation is the variability in teaching hours and term lengths between the public and private school systems. Allied to this, the status of pupil free days has been raised as another problem area for drivers.

[184] Transcript of Evidence, 16 November 2011, p3.
[185] Transcript of Evidence, 21 November 2011, p42.
[186] Ibid, p44.

6.24 As detailed in Chapter 2, more than 10,000 school zones operate in 3,154 school precincts across NSW between the hours of 8.00am-9.30am and 2.30pm-4.00pm on school days. In addition to this, 26 school zones operate with non-standard times. The reasons for the non-standardised operation are set out in additional information provided to the Committee as follows:

> There are twenty six school zones with non-standard school zone hours on public roads and all of these have flashing lights. There is also one school zone with non-standard times located on a private road. In addition, the School Zone sign for a non-standard zone is bright orange/red, and the operating times are in red to draw attention to the variance. While the general principle is to keep operating times standard, these schools requested non-standard times for their school zones. Generally these have been approved if a school identified extenuating circumstances such as early starting or late finishing times.
>
> Some examples of such schools zones are:
>
> Kincumber High School and Holy Cross Primary (Bungoona Road and Kincumber Road, Kincumber). Kincumber High School officially starts at 8.15am, however students start arriving at school from 7.30am. The school zone in this precinct operates from 7.30-9.00am (non-standard) and 2.30pm – 4.00pm (standard).
>
> Northlakes Public School and Northlakes High School (Goorama Avenue, San Remo). Both schools commence earlier than most schools. Northlakes High School commences at 8.12am (with students arriving much earlier than this time) and Northlakes Public School commences at 8.30am. The school zone in this precinct operates from 7.30am-9.30am (non-standard) and 2.30pm – 4.00pm (standard).[187]

6.25 Representatives of Waverley Council appearing before the Committee, referring to the differences in school terms and operating hours, made the following observations:

> My only comment would be that it is my experience that many parents who have their children at independent schools understand that when their children are on holiday the zones are not in operation. We do what we can through educating, we send information to school newsletters advising parents that that is not the case, we give them the dates that the zones start and finish, but I think it is difficult… There are so many different schools with different starting and finishing times, the private schools. Even their official starting times are different. My daughter goes to a private school and she now has a period zero which starts at 8.00 a.m. Some of the others schools in the area do not start until 9.00 or 9.15, even though the school zones click in at 8.00. Some schools even have students there at 7.30 because they have before normal school hours classes. So there are even schools operating well before the 8.00 a.m. time when these zones click in.[188]

6.26 The NRMA has also referred to differences in school term start and end dates between Eastern and Western school divisions of NSW. According to the NRMA, this causes additional confusion for motorists and makes it difficult for the NSW

[187] Transport for NSW, Answers to Supplementary Questions, 14 December 2011.
[188] Transcript of Evidence, 16 November 2011, p46.

Government, motoring authorities and NSW Police to publicise a consistent message about when the school zones are in operation.[189]

6.27 The submission from the Council of Catholic School Parents also argues that there should be consistency across the State and does not support variability between urban, regional and rural zones.

6.28 A further consideration raised by witnesses is that a range of extra curricular school activities involving students are also conducted outside regular school hours. These include cultural events and sporting fixtures, which are not currently encompassed by the school zone speed provisions. Alternative models designed to remove these inconsistencies and to provide more certainty for drivers about the operation of school zones are employed in other jurisdictions, such as the ACT and South Australia.

6.29 In the ACT, a 40km/hr zone is in operation on designated streets in school zones between 8.00am until 4.00pm Monday to Friday, to ensure a low speed environment in the proximity of schools and school crossings. Erected school zone signs posted at the entrances to zones are "closed" or "open" and a 50km/hr default speed applies when the zone is closed.[190]

6.30 As well as addressing criticisms of inconsistencies about when school zones are active, this system also overcomes confusion about the status of pupil free days and provides greater certainty for motorists concerning speed limit restrictions around school precincts.

6.31 According to evidence provided at public hearings, South Australia has a school zone system which operates 24 hours a day throughout the year. Representatives from the Australasian College of Road Safety described the benefits of an extended hours regime in the following way:

> If you think of what schools are, they are not just used as a place where kids go and learn for the day and then leave; the school halls, in particular, are frequently used after hours and during the day for dances and parent-teacher meetings, et cetera. So they are operating more than just for teaching… Many schools have playgrounds that are still open to the general public. Many schools have markets and other activities where large numbers of children are involved. The issue there is that the schools do not just attract children when they go to school and when they leave school; they attract children throughout the day and on weekends, and even in the evenings. In essence they are a hub of activity and a good school can make some money to help with maintenance by hiring the school halls out—things along those lines. It is a very appropriate way of managing the school ground but at the same time it attracts children, not quite 24/7 but certainly for much longer periods of time than the normal school zones would suggest.[191]

6.32 Witnesses appearing before the Committee had differing views about the benefits of these alternative models. While the Australasian College of Road Safety supported more extensive operational hours than those currently applying

[189] Submission 27, NRMA, p19.

[190] ACT Government, Territory and Municipal Services, 23 January 2012.

[191] Transcript of Evidence, 21 November 2011, p3.

in NSW, College representatives claimed that the lack of effectiveness data makes it difficult to determine which alternative approach should be adopted.

FUTURE PLANNING CONSIDERATIONS

6.33 Established schools experience traffic, parking and pedestrian safety issues partly based on conditions applying at the time they were established. This was summed up by the President of the Federation of Parents and Citizens' Association of New South Wales appearing before the Committee:

> We get schools being built but historically a lot of the schools that we have, have been there for a long period of time and what happened back then is different to what is happening now. You have growth in local communities so you get more families in there; you get more people travelling by car rather than by public transport. You have communities where there is no public transport so people do depend on cars. What we find is that sometimes the planning that occurred 20 years ago, 30, 40 or 50 years ago around a school zone did not incorporate the whole school.
>
> They may have incorporated the buildings inside and all the infrastructure there, but what they did not look at is the community and the fact that a child goes from home to school and from school to home. You need to incorporate all of that as part of your management plan and what we need to do is make sure that in future all planning includes that as an aspect of it but also anything that happens around schools now, if there is a capacity to do something more positive about allowing improved parking, more flashing lights, pedestrian crossings or anything like that just to improve the safety mechanism around those schools, we would like to see that, but part of an overarching management plan would be great.[192]

6.34 New school locations provide the best opportunities for optimising student safety and allow measures to be incorporated in the design of appropriate infrastructure to reflect best current practice. This is particularly the case in new Growth Centre developments across the Sydney area.

6.35 The NSW Department of Planning and Infrastructure has primary responsibility for land use planning across the State. According to supplementary written advice provided to the Committee, the Department "works in partnership with the relevant local councils in rezoning new release areas and with the Department of Education and Communities to determine appropriate locations for future school sites".[193]

6.36 Land use planning is guided by a number of instruments including the Growth Centres State Environmental Planning Policy. The Department of Planning and Infrastructure works with the Department of Education and Communities (DEC) to determine appropriate locations for future school sites as part of any rezoning process. Precinct Plans, including future school locations, are prepared after a community consultation process inviting public comment.

6.37 The two departments then determine indicative and easily accessible school sites away from major roads. Local councils, in conjunction with the Department of

[192] Transcript of Evidence, 16 November 2011, pp31-32.

[193] Department of Planning and Infrastructure, Answers to Supplementary Questions, 20 December 2011.

Education and Communities, assess the acceptability of proposed sites for development consent through the Development Application (DA) process. Schools are preferably located on secondary roads to provide access within student catchments and safety issues are assessed as part of the DA by the relevant council, Roads and Maritime Services (RMS) and DEC. Development Control Plans also include a traffic and transport assessment to accompany the DA.[194]

6.38 While the Department of Planning and Infrastructure states that it does not have a role in the location of school zones or site specific pedestrian treatments around schools and that this is the domain of the consent authority, RMS and DEC, it would seem to the Committee that greater coordination between the various agencies can be improved in this regard. A more strategic and integrated approach to future planning should ensure greater consistency in access provision, safety measures and traffic movement in and around school precincts.

6.39 When questioned at the public hearing, the Deputy Director-General of Schools in the Department of Education and Communities described their current process:

> I think I mentioned earlier that road safety is addressed as part of our safe school design in our Schools Facilities Standards. So when planning new schools the department would employ, as I said, a traffic management consultant, and that helps with the decisions about the traffic flow, and our assets unit, with a conjunction of that process, would be working with all the local authorities and appropriate agencies in the planning to make sure we look at all possibilities to minimise the risk around the traffic flow of that new site.[195]

6.40 The Director of the Catholic Education Commission of NSW, in responding to questions about the effectiveness of coordination between the various agencies and extent of participation in consultative mechanisms set up by DEC and RMS, told the Committee:

> The short answer is yes, but at State level—I do not know. I think that illustrates the point that the coordination at State level is good but it is too centralised. That is the paradox of it—yes, we liaise a lot in Sydney but it tends to give a Sydney-centric view of the world.[196]

6.41 In further questioning about the role of the Department of Planning and Infrastructure in integrated planning and management of school zones, the Commission Director responded:

> As a matter of principle it would be sensible to involve the Department of Planning. Because we have to put in development applications to develop schools or redevelop schools, traffic management is part of that development application process. We would like to see all of that integrated. We certainly do not want multiple and conflicting processes.[197]

[194] Ibid.
[195] Transcript of Evidence, 16 November 2011, pp11-12.
[196] Ibid, p21.
[197] Ibid, p24.

6.42 The role of local councils in an integrated system was also emphasised by the Institute of Public Works Engineering Australia:

> We see the need for assessment of road safety should be an integral part of local government activities. The submission we made was that it should not be a role of changing existing legislation through local government's integrated planning and reporting. The road safety issues, be they around schools or anywhere else, within a shire or local government area should be related to part of their risk management plan, which is part of their responsibilities in integrated planning and reporting. That may require some change in regulation but not necessarily a change in legislation. It is of concern to us and we would continue to argue that, one, we need to be properly funded and, two, road safety—be it safer roads, safer people and to a lesser extent safer cars—should be an integral part of local government activities.[198]

6.43 The Executive Manager of the Institute continued:

> …our argument would be that if road safety becomes a whole-of-council objective, an integral part of their risk management plan and integrated planning and reporting, then those road safety officers can have a vital role in terms of bringing together both the engineering and the behavioural aspects of delivering good road safety outcomes within local government areas.[199]

6.44 Integrated planning and reporting should be a central feature of managing safety around schools and incorporated in risk management strategies applying across State agencies with responsibility for roads, schools and public safety.

6.45 Staysafe considers that the existing planning mechanisms involving the Departments of Planning and Infrastructure, Education and Communities, Local Government and Roads and Maritime Services can be improved to ensure greater consistency and to deliver better safety outcomes. This will be expanded on further in Chapter 7 of the Report.

[198] Transcript of Evidence, 21 November 2011, p20.
[199] Ibid, p23.

Chapter Seven – Conclusions and Recommendations

7.1 This Inquiry, the result of a reference from the Minister for Roads and Ports, provided an opportunity to revisit and build on previous Staysafe reviews of school zones. It also follows the 2009/2010 performance audit of school zones conducted by the NSW Auditor-General, which made a series of recommendations to improve road safety around schools.

7.2 The overall consensus is that school zones have made a major contribution to road safety. The creation of school zones has reduced the risk of fatality and injury for school aged children and made motorists, students and their carers more conscious of risks, reduced crash severity by reducing vehicle speeds and introduced substantial engineering treatments to improve road conditions in and around school precincts.

7.3 In the last 15 years, subsequent to the introduction of the first school zones, the number of fatalities and injuries occurring in these zones has decreased substantially with the casualty reduction for school aged pedestrians being greater than all road casualties and pedestrian casualties overall. Since 1996, the number of injuries in active school zones has declined from 71 in 1996 to 44 in 2010, with two fatalities in the same period.

7.4 There is still room for refinement in the operation of existing school zone precincts and the Committee has made a series of recommendations to assist agencies with responsibilities in this area to further improve their policy settings and practices.

ROAD SAFETY INFRASTRUCTURE

7.5 The use of flashing light technology has received broadly based support as a visible and reliable means of advising and alerting motorists about the operating times of school zones. The presence of flashing lights has been critical in reducing vehicle speeds and impact severity in the event of a crash. The Auditor-General, in his performance audit report questioned the reliability of cost figures he had obtained regarding the installation of these flashing lights. He also suggested that additional penalties should be imposed for speeding through such lights.

RECOMMENDATION 1

The Committee recommends that Roads and Maritime Services provides more detailed figures regarding the cost of installation and maintenance of flashing light technology and how this treatment compares to alternative measures which could be adopted.

RECOMMENDATION 2

On the basis of the high degree of support for flashing light technology, the Committee recommends that Roads and Maritime Services considers imposing additional penalties for speeding in school zones governed by flashing lights.

The revenue from such fines should be redirected to install additional flashing lights in NSW school precincts, particularly in school zones with non-standard operating times.

RECOMMENDATION 3

The Committee also recognises that flashing light technology constitutes the most effective warning system for alerting motorists to the presence and operational times of school zones and recommends that Roads and Maritime Services aims to install flashing lights at all school zones as part of a longer term child pedestrian safety strategy, based on a standardised and rigorous assessment of priority.

7.6 A range of measures is employed in school zones to improve access, reduce crossing distances and improve visibility for drivers and pedestrians as well as preventing or reducing the severity of impact in the event of a crash. Traffic calming devices also slow traffic flow and raise driver awareness to the presence of pedestrians on the road.

7.7 Localised treatments include: pedestrian traffic signals; marked crossings such as zebra crossings; children's crossings; pedestrian bridges or underpasses; kerb ramps and extensions; pedestrian refuge islands; and pedestrian fencing. While the optimal treatment is total physical separation between pedestrians and vehicles this is not always practicable or cost effective.

7.8 The Committee has been alerted to some criticisms concerning the use of particular treatments at specific locations. The NRMA has questioned the lack of a comprehensive evaluation of pedestrian bridges, one of the costlier options available. The Committee notes that a limited evaluation of such bridges indicates that a number of students choose not to avail themselves of this facility at selected locations and prefer instead to cross the road at grade.

RECOMMENDATION 4

The Committee recommends that Roads and Maritime Services conducts a comprehensive cost benefit evaluation of pedestrian bridges in relation to alternative treatments to ensure that the high cost of construction can be justified on the basis of usage.

7.9 There is also some conjecture about the usefulness of pedestrian fencing in preventing unsafe crossing behaviour and directing pedestrians to controlled crossing points. The Committee was advised that there is currently a trend to remove such fencing by road safety authorities in the UK. According to the City of Sydney, pedestrian fencing can contribute to preventing pedestrians from accessing their preferred routes from one place to another; encourage higher vehicle speeds due to a lower perceived risk; degrade the street scene; and, in areas of high demand, take valuable footway space away from pedestrians.

RECOMMENDATION 5

The Committee recommends that Roads and Maritime Services conducts more evidence based research into the cost effectiveness and benefits of pedestrian fencing in reducing crash casualty risk.

7.10 The Committee received evidence relating to the current operation of fixed speed cameras in school zones and agrees that while the installation of speed cameras is a useful deterrent in circumstances where an identified risk exists, the current procedures used to determine their suitability for deployment are appropriate and adequate. In the Auditor-General's report, a recommendation was made to direct all revenue derived from speed cameras into road safety projects.

RECOMMENDATION 6

The Committee recommends that all revenue raised by school zone cameras be reinvested in specific road safety projects.

7.11 The Committee notes the observations made by the Auditor-General about the results of a survey carried out in 2008, indicating that a significant number of motorists are still exceeding the speed limit in school zones. While it is evident that the sample size in this survey only represented 12 schools, this is still a source of some concern and merits further investigation.

RECOMMENDATION 7

The Committee recommends that Roads and Maritime Services and NSW Police conduct further research into adherence to speed limits in school zones, with a view to stricter enforcement of the 40km/hr restrictions.

7.12 Transport for NSW provided the Committee with information about the degree to which school zone audits are carried out across the State. Evidence was also received, however, that these audits are not adequately ensuring that the zones are appropriately maintained. In the additional information provided by Transport for NSW, it is evident that not all Roads and Maritime Services regions have the same schedules and administrative processes for monitoring and assessing zones. The Committee is not satisfied that the audit process is rigorous or consistent enough to ensure optimal provision and maintenance of signage and regular remediation of school zones.

RECOMMENDATION 8

The Committee recommends that Roads and Maritime Services institute a more standardised and rigorous system of auditing all 3,154 school zones in NSW on a regular basis, thereby ensuring regular maintenance of signage and prompt remediation of degraded infrastructure.

ROAD SAFETY EDUCATION

7.13 The NSW Road Safety Education Program provides educational resources to all schools in NSW and also provides professional development for teachers in the field of road safety instruction.

7.14 Road safety is taught to all students throughout their school career from kindergarten to the end of secondary school as part of the NSW Board of Studies Personal Development, Health and Physical Education (PDHPE) syllabus. The PDHPE course with its road safety component is compulsory for all students. The

Committee notes the importance of a strong focus on road safety education for students of all ages and supports its mandatory status in the curriculum.

7.15 The work done within schools is assisted by Road Safety Education Consultants, whose work is greatly valued by councils and road safety authorities. The Department of Education and Communities has ten consultants which are available to cover all NSW schools. In view of the important work done by the Road Safety Education Consultants and the belief by councils that road safety education is suffering due to a lack of support, the Committee considers that the number of Consultants employed in NSW schools should be increased.

RECOMMENDATION 9

The Committee recommends that the Department of Education and Communities evaluates the adequacy of provision of Road Safety Education Consultants in schools, with a view to expanding the availability of these Consultants across all school regions.

7.16 An important part of effective education programs is ensuring that they are properly assessed to maintain high standards and have the capacity to be adapted as required. Although the Committee was advised that some evaluation has been carried out, a common complaint from other stakeholders concerns the lack of information available on the assessment of teaching materials and practices or the claim that assessment may not take place. The NSW Auditor-General also suggested that further evaluation or evaluation with a different focus would be beneficial.

RECOMMENDATION 10

The Committee recommends that Roads and Maritime Services undertakes additional research to determine the effectiveness of the road safety education program for school children in modifying the behaviour of children, parents and carers around school precincts.

7.17 In addition to school based educational experiences, there are also a number of other opportunities for young people to learn appropriate road safety behaviour. Organisations such as the NSW Police, the NRMA, the Rural Fire Service, Rotary groups and the Scouts provide road safety education for young people.

7.18 The Committee is of the opinion that there is scope for increased involvement in road safety education in schools for appropriately qualified and experienced road safety practitioners in order to deliver the best possible learning experience. Such involvement should be provided on an expert basis, in conjunction with and in the presence of relevant classroom teachers.

RECOMMENDATION 11

The Committee reiterates views expressed in previous reports and recommends that appropriately qualified and experienced road safety practitioners augment the current teaching of road safety as part of the school syllabus alongside classroom teachers.

7.19 NSW is the only state in Australia which has mandatory road safety education as part of its school curriculum. The Federal Government is currently in the process of developing a national curriculum through consultation with all Australian State and Territory governments and other relevant stakeholders. Concerns were raised with the Committee that the strong curriculum focus on road safety as part of the NSW syllabus may be lost in a national curriculum, whether intentionally or through oversight.

RECOMMENDATION 12

The Committee recommends that the Minister for Education, through the Council of Australian Governments process, ensures that the proposed national curriculum adopts the NSW policy of mandatory road safety education for all students.

ROAD SAFETY OFFICERS

7.20 Road Safety Officers employed in local councils provide an essential function by developing and implementing community road safety educational and behavioural projects within their local council areas and raising the priority of road safety within local councils. Officers are encouraged to collaborate with local representatives from other appropriate agencies (such as the NSW Police, Roads and Maritime Services, and the Departments of Health, and Education and Communities) and appropriate organisations to achieve effective road safety project outcomes.

7.21 The Committee has been alerted to concerns about the longer term viability of the Road safety Officer Program and has previously reported on its uncertain future, despite its obvious benefit and effectiveness. In the Young Driver Safety Report and Education Programs report tabled in November 2008, the Committee recommended that the then RTA provide more clarity about the Road Safety Officer Program and consider additional funding to expand its operations.

RECOMMENDATION 13

The Committee reiterates previous recommendations in relation to the future operation of the Road Safety Officer Program and again recommends that the Program be maintained and expanded to provide greater certainty of employment for staff currently employed and to increase its effectiveness and reach across NSW council areas.

7.22 The Committee also notes the potential for sharing best practices amongst councils and Road Safety Officers through mechanisms such as the Institute of Public Works Engineering Australia Annual awards system and considers that there could be benefits from expanding such a system**.**

RECOMMENDATION 14

The Committee recommends that Roads and Maritime Services, in conjunction with local councils examine the feasibility of supporting school zone safety projects undertaken by Road Safety Officers by initiating an awards system to recognise significant road safety projects in school zones.

SAFETY AWARENESS CAMPAIGNS

7.23 Despite the success of the school zones policy, there is still confusion about the rules applying for motorists and evidence of inappropriate behaviour in and around school areas, particularly by parents. The risks caused by parents and carers failing to adhere to school zone restrictions include double parking and stopping in no-stopping areas.

7.24 A common explanation for this behaviour is that parents are often unsure of the exact nature of the regulations applying in school zones. Many submissions expressed the view that public education and information provision must be improved for adults driving the children to school and for other road users who travel through school zones.

7.25 Although some educational resources are provided in the way of information fact sheets and electronic material provided by Roads and Maritime Services, this must be supplemented by more aggressive campaigns and better accessibility to information about the road rules applying in school zones.

RECOMMENDATION 15

The Committee recommends that Roads and Maritime Services and the Department of Education and Communities investigate methods of improving the dissemination of school zone road rules and regulations to parents, carers and motorists utilising school zones and highlight this as part of driver education for licensing requirements.

7.26 The Committee draws particular attention to expressed confusion surrounding drop off and pick up practices, or kiss-and-drop zones as they are also known, which are designed to encourage limited stopping by parents and carers to allow their children to alight. This confusion is compounded in the way these drop off and pick up areas are defined and deployed by individual schools and local councils. Their current operation has led to added congestion in school zones, differing practices concerning how they are managed, as well as an associated increase in safety risks for young pedestrians.

RECOMMENDATION 16

The Committee recommends that Roads and Maritime Services review the existing guidelines surrounding its drop off and pick up initiative. The new guidelines should more accurately define the operation of the drop off area in question, standardise the practice across all NSW schools and be disseminated widely as part of existing road safety education initiatives in all schools.

RECOMMENDATION 17

The Committee further recommends that the specific rules and penalties associated with offences in school zones should be publicised in a public safety education campaign developed by Roads and Maritime Services. This campaign should also highlight the success and benefits of the operation of school zones in reducing crash severity and improving pedestrian safety.

STANDARDISATION OF SCHOOL ZONES

7.27 Evidence taken by the Committee as part of its Inquiry reinforces the view that greater standardisation of school zone operations is required. Improved consistency in the application of safety treatments and stricter enforcement of rules and regulations governing safe driving were cited as areas which should be addressed.

7.28 The road system itself determines the location of school access roads in relation to school entrances and, consequently, results in a lack of standardisation in the delineation of school zones. The perimeter of school zones often takes in parts of road reservations not directly adjacent to the school itself and this was highlighted as an issue during the Committee's investigations.

7.29 The demarcation of the school zone also dictates the nature of the infrastructure and safety measures required. This means that the range of treatments applied varies extensively from one school to another and has resulted in complaints from councils about a lack of adequate infrastructure and physical constraints in certain locations.

7.30 Another element in maintaining consistency across school zones relates to the application and enforcement of speed limits. A recurrent theme referred to in submissions and other evidence received concerns the variability in posted speed limits along certain stretches of roads, where there may be more than one school located and speed limits change between each one. This, in addition to uncertainty about when the zones are operational, has been a source of frustration expressed by vehicle drivers.

7.31 This lack of consistency is compounded by variability in school terms and teaching hours. In NSW, 26 schools operate with non-standard times, with further discrepancies in length and commencement of school terms between Eastern and Western school divisions of NSW.

7.32 Additionally, private and public schools do not have consistent school terms and conduct variable extra curricular activities outside normal school hours. This leads to a situation where motorists are not certain when the zones are active or when there are school aged pedestrians around school precincts.

7.33 Alternative school zone models are utilised in other States and Territories. In South Australia, school zones operate 24 hours a day throughout the year, whereas in the ACT, their hours of operation are from 8.00am until 4.00pm Monday to Friday. As well as addressing criticisms of inconsistencies about when school zones are active, these systems also overcome confusion about the status of pupil free days and provide greater certainty for motorists concerning speed limit restrictions around school precincts.

7.34 Witnesses appearing before the Committee cited the lack of effectiveness data for these differing models, making it difficult to determine the benefits of alternative approaches.

RECOMMENDATION 18

The Committee recommends that Roads and Maritime Services conducts an evaluation of alternative school zone hours of operation based on data available from other Australian jurisdictions, with a view to assessing the effectiveness of altering the operation of school zone hours in NSW.

FUTURE PLANNING

7.35 Planning considerations influence the location and road access to schools and associated infrastructure. The National Road Safety Strategy 2011-2020 stresses the importance of land use planning decisions within the Safe System approach to road safety, whereby the road transport system is considered in its totality.

7.36 Land rezoning provides the best opportunity for locating schools away from major roads and designing appropriate safety infrastructure. The Department of Planning and Infrastructure works with the Department of Education and Communities to determine future school site locations as part of any rezoning process. The two departments then determine indicative and easily accessible school sites away from major roads.

7.37 The Department of Planning and Infrastructure states that it does not have a role in the location of school zones or site specific pedestrian treatments around schools. Moreover, the Department of Planning and Infrastructure said that this is the domain of the consent authority, Roads and Maritime Services and the Department of Education and Communities.

7.38 It would seem to the Committee that greater coordination between the various agencies can be improved in this regard. A more strategic and integrated approach to future planning should ensure greater consistency in access provision, safety measures and traffic movement in and around school precincts.

7.39 Staysafe considers that the existing planning mechanisms involving the Departments of Planning and Infrastructure, Education and Communities, Local Government and Roads and Maritime Services can be improved to ensure greater consistency and to deliver better safety outcomes.

RECOMMENDATION 19

The Committee recommends that a coordination committee comprising the Department of Planning and Infrastructure, the Department of Local Government, Roads and Maritime Services and the Department of Education and Communities be established to jointly plan and develop a coordinated management strategy for school zone safety in areas designated for future schools.

Appendix One – List of Submissions

1	Mr Mick George
2	Mr Andrew McDonald
3	Mr Richard Ure
4	Wyong Shire Council
5	Mr Edward Ellis
6	Mr Mark Muntz
7	Federation of Parents and Citizens' Associations of New South Wales
8	Waverly Council
9	Pedestrian Council of Australia Limited
10	Mr Peter Lenaghan
11	Mr Michael Lane
12	Australasian College of Road Safety
13	IPWEA (NSW) Roads & Transport Directorate
14	Mr Chris Wong
15	University of NSW Transport and Road Safety Research Group
16	ARRB Group Ltd NSW/ACT
17	Youthsafe
18	Mr Chris Patterson MP
19	City of Sydney
20	Council of Catholic School Parents NSW/ACT
21	Commission for Children and Young People
22	Catholic Education Commission New South Wales
23	Kidsafe NSW
24	Safety & Policy Analysis International
25	Department of Premier and Cabinet
26	Camden Council
27	NRMA Motoring & Services

Appendix Two – List of Witnesses

16 NOVEMBER 2011, MACQUARIE ROOM, PARLIAMENT HOUSE

Witness	Organisation
Ms Margaret Prendergast Acting General Manager Mr Evan Walker Acting Principal Manager Safer People	NSW Centre for Road Safety
Ms Karen Paterson Manager Policy and Research	Department of Premier and Cabinet Division of Local Government
Mr Gregory Prior Deputy Director-General Schools	Department of Education and Communities
Mr Ian Baker Director Education Policy and Programs Mr Paul Mastronardi State Coordinator Student Wellbeing Programs Ms Christine Rheinberger Broken Bay Diocesan Road Safety Coordinator	Catholic Education Commission of New South Wales
Mrs Helen Walton President Ms Rachael Sowden Publicity Officer	Federation of Parents and Citizens' Associations of New South Wales
Mr Michael Lane	Private Citizen
Ms Meg Cunningham Training and Community Education Officer Mr Geoffrey Garnsey Manager Transport and Development	Waverly Council

21 NOVEMBER 2011, WARATAH ROOM, PARLIAMENT HOUSE

Witness	Organisation
Associate Professor Teresa Senserrick Chair, NSW (Sydney) Chapter Mr Dick Van Den Dool	Australasian College of Road Safety
Mr David McTiernan Engineer and Team Leader Safe Systems	Australian Road Research Board Group Ltd – NSW/ACT
Mr Mark Turner Executive Manager	Institute of Public Works Engineering Australia (NSW) Roads & Transport Directorate
Mr Gregor Macfie Director Policy and Research Ms Vanessa Whittington Senior Policy Officer	NSW Commission for Children and Young People
Mr Mark Wolstenholme Senior Policy Advisor Traffic and Roads	NRMA Motoring and Services
Mr Terry Lee-Williams Manager City Transport and Access Unit Mr Leonard Woodman Road Safety Officer	City of Sydney
Dr Jake Olivier Senior Lecturer in Biostatistics Professor Raphael Grzebieta Professor of Road Safety	University of New South Wales Transport and Road Safety (TARS) Research
Mr Peter Achterstraat Auditor-General Mr Geoffrey Moran Performance Audit Leader	New South Wales Audit Office
Assistant Commissioner John Hartley APM Commander Traffic Services	New South Wales Police Force
Mr Harold Scruby Chairman / CEO	Pedestrian Council of Australia Ltd

Appendix Three – Extracts from Minutes

MINUTES OF PROCEEDINGS OF THE JOINT STANDING COMMITTEE ON ROAD SAFETY (NO. 3)

4.00pm, Friday, 26 August 2011
Room 1043, Parliament House

Members Present

Mr Aplin (Chair), Mr Colless, Mr Furolo, Mr Secord, Mr Webber and Mr Williams

Apologies

Apologies were received from Mr Ayres and Ms Faehrmann.

Ministerial Referral

The Committee deliberated on proposed terms of reference for an inquiry into school zone safety provided by the Minister for Roads and Ports.
Resolved, on the motion of Mr Colless:
'That the Committee adopts the inquiry into NSW School Zones proposed by the Minister for Roads and Ports with amended terms of reference.'
Resolved, on the motion of Mr Furolo:
'That the Inquiry be advertised calling for submissions by the end of September 2011.'

The committee adjourned at 4.23pm until 4.00pm Thursday, 15 September 2011.

MINUTES OF PROCEEDINGS OF THE JOINT STANDING COMMITTEE ON ROAD SAFETY (NO. 4)

4.00pm, Thursday 20 October 2011
Room 1043, Parliament House

Members Present

Mr Aplin (Chair), Mr Colless, Ms Faehrmann, Mr Furolo, Mr Secord, Mr Webber and Mr Williams

Apologies

An apology was received from Mr Ayres.

School Zone Safety Inquiry

The Committee deliberated on the submissions received thus far relating to the Inquiry into School Zone Safety.
Resolved, on the motion of Ms Faehrmann:
'That the Committee receives and authorises the publication of the 25 submissions detailed at Attachment A and orders that they be placed on the Parliament's website.'

The Committee deliberated on potential witnesses for two days of public hearings on 16 and 21 November 2011. Mr Furolo suggested the addition of further witnesses.
Resolved, on the motion of Mr Webber:
'That the Committee agrees to the amended list of witnesses and the secretariat makes appropriate arrangements for scheduling witnesses and the conduct of the hearings.'

The Committee adjourned at 4.49pm until 11.00am, Wednesday 2 November 2011.

MINUTES OF PROCEEDINGS OF THE JOINT STANDING COMMITTEE ON ROAD SAFETY (NO. 5)

11.00am, Wednesday 16 November 2011
Macquarie Room, Parliament House

Members Present

Mr Aplin (Chair), Ms Faehrmann, Mr Furolo, Mr Secord and Mr Williams

Apologies

An apology was received from Mr Ayres, Mr Colless and Mr Webber.

Inquiry into School Zone Safety - Public Hearing

The Committee commenced its hearing at 11.00am. The public was admitted.

NSW Government
Ms Margaret Prendergast, Acting General Manager, Centre for Road Safety, Transport for NSW; Mr Evan Daniel Walker, Acting Principal Manager, Safer People, NSW Centre for Road Safety; Ms Karen Lee Paterson, Manager, Policy and Research, Division of Local Government, Department of Premier and Cabinet; and Mr Gregory Andrew Prior, Deputy Director-General, Schools, Department of Education and Communities, were affirmed and examined.
Evidence completed, the witnesses withdrew.

Private Meeting

The public hearing was adjourned at 12.30pm to conduct a private meeting of the Committee.

School Zone Safety Inquiry

The Committee deliberated on late submissions received relating to the Inquiry into School Zone Safety.
Resolved, on the motion of Mr Furolo:
' That the Committee receives and authorises the publication of the submissions from Camden Council, dated 24 October 2011 and the NRMA, dated 25 October 2011 and orders that they be placed on the Parliament's website.'

The Committee deliberated on the procedures governing the conduct of private meetings of the Committee.
Resolved, on the motion of Mr Secord:
'That the Committee extends an invitation to the Pedestrian Council of Australia to appear at its scheduled public hearing on 21 November 2011.'

The Committee adjourned at 12.55pm to reconvene the public hearing.

Inquiry into School Zone Safety - Public Hearing

The Committee recommenced its hearing at 1.30pm. The public was admitted.

Catholic Education Commission of NSW
Mr Ian George Baker, Director, Education Policy and Programs; Mr Paul Dominic Mastronardi, State Coordinator, Student Wellbeing Programs; and Ms Christine Marie Rheinberger, Diocese and K-12 Student Wellbeing/Road Safety Officer, were sworn and examined.
Evidence completed, the witnesses withdrew.

Federation of Parents and Citizens' Associations of NSW
Ms Helen Margaret Walton, President and Ms Rachael Barham Sowden, Publicity Officer, were sworn and examined.
Evidence completed, the witnesses withdrew.

Mr Michael Frederick Lane was affirmed and examined.
Evidence completed, the witness withdrew.

Waverley Council
Ms Meg Mitchell Douglas Cunningham, Training and Community Education Officer and Mr Geoffrey Edward Garnsey, Manager Transport and Development, were affirmed and examined.
Evidence completed, the witnesses withdrew.

The Committee adjourned at 3.58pm until 9.30am, Monday 21 November 2011, at Sydney.

MINUTES OF PROCEEDINGS OF THE JOINT STANDING COMMITTEE ON ROAD SAFETY (NO. 6)

9.30am, Monday 21 November 2011
Waratah Room, Parliament House

Members Present

Mr Aplin (Chair), Mr Colless , Mr Ayres, Ms Faehrmann, Mr Furolo, Mr Secord and Mr Webber

Apologies

An apology was received from Mr Williams.

Inquiry into School Zone Safety - Public Hearing

The Committee commenced its hearing at 9.35am. The public was admitted.

Australasian College of Road Safety
Professor Teresa Senserrick, Associate Professor, Transport and Road Safety Research, University of New South Wales was sworn and examined.
Mr Dick van den Dool, Consultant, was affirmed and examined.
Evidence completed, the witnesses withdrew.

Mr David Phillip McTiernan, Engineer and Team Leader Safe Systems, Australian Road Research Board Group Ltd was affirmed and examined.
Evidence completed, the witness withdrew.

Mr Mark David Turner, Executive Manager, Institute of Public Works Engineering Association, New South Wales Division was sworn and examined.
Evidence completed, the witness withdrew.

Private Meeting

The public hearing was adjourned at 11.30pm to conduct a private meeting of the Committee.
The Committee adjourned at 11.35am to reconvene the public hearing.

Inquiry into School Zone Safety - Public Hearing

The Committee recommenced its hearing at 11.40am. The public was admitted.

The NSW Commission for Children and Young People
Mr Gregory Craigie Macfie, Director, Policy and Research and Vanessa Marie Whittington, Senior Policy Officer, were affirmed and examined.
Evidence completed, the witnesses withdrew.

Mr Mark Wolstenholme, Senior Policy Adviser, NRMA Motoring and Services was sworn and examined.
Evidence completed, the witness withdrew.

City of Sydney
Mr Terry Lee-Williams, Manager, City Transport and Access Unit was affirmed and examined.
Mr Leonard Paul Thomas Woodman, Road Safety Officer, was sworn and examined.
Evidence completed, the witnesses withdrew.

University of NSW
Dr Jake Olivier, Senior Lecturer in Biostatistics was sworn and examined.
Professor Raphael Hillary Grzebieta, Chair of Transport and Road Safety Research Group, was affirmed and examined.
Evidence completed, the witnesses withdrew.

NSW Audit Office
Mr Peter Charles Achterstraat, Auditor-General and Mr Geoffrey Robert Moran, Performance Audit Leader, were sworn and examined.
Evidence completed, the witnesses withdrew.

Assistant Commissioner John Douglas Hartley, Commander Traffic Services, NSW Police was sworn and examined.
Evidence completed, the witness withdrew.

Mr Harold Charles Scruby, Chairman, Pedestrian Council of Australia Ltd was affirmed and examined.
Evidence completed, the witness withdrew.

The Committee adjourned at 4.30pm until a date and time to be determined.

MINUTES OF PROCEEDINGS OF THE JOINT STANDING COMMITTEE ON ROAD SAFETY (NO. 7)

1.00pm, Wednesday, 22 February 2012
Room 1254, Parliament House

Members Present

Mr Aplin (Chair), Mr Ayres, Mr Colless, Ms Faehrmann, Mr Secord, Mr Webber and Mr Williams

Apologies

An apology was received from Mr Furolo.

The Chair commenced the meeting at 1.08pm.

Confirmation of Minutes

Resolved, on the motion of Mr Williams, that the minutes of the deliberative meeting and public hearing conducted on 16 November 2011 be confirmed; and
Resolved, on the motion of Mr Webber, that the minutes of the deliberative meeting and public hearing conducted on 21 November 2011 be confirmed.

School Zone Safety Report

The Chair's draft report on the inquiry into School Zone Safety was distributed to Committee Members. The Committee agreed to deliberate on the report at its following meeting.

The Committee adjourned at 1.28pm until 1.00pm Wednesday, 14 March 2012.

MINUTES OF PROCEEDINGS OF THE JOINT STANDING COMMITTEE ON ROAD SAFETY (NO. 8)

1.00pm, Wednesday, 14 March 2012
Room 1254, Parliament House

Members Present

Mr Aplin (Chair), Mr Ayres, Mr Colless, Mr Furolo, Mr Secord, Mr Webber and Mr Williams

Apologies

Ms Faehrmann

The Chair commenced the meeting at 1.05pm.

Confirmation of Minutes

Resolved, on the motion of Mr Webber, that the minutes of the deliberative meeting conducted on 22 February 2012 be confirmed.

Inquiry into School Zone Safety – Report Consideration

The Committee deliberated on the Chair's draft report on the inquiry into School Zone Safety.
Resolved, on the motion of Mr Colless:
'That the Committee consider the Report recommendation by recommendation.'

Recommendations 1-5, on the motion of Mr Ayres, reordered with Recommendations 3, 4 and 5 preceding Recommendations 1 and 2, agreed to.
Reordered Recommendation 3, on the motion of Mr Ayres, amended by the addition of the words "based on a standardised and rigorous assessment of priority" at the end of the recommendation, agreed to.
Recommendation 6, on the motion of Mr Secord, agreed to.
Recommendation 7, on the motion of Mr Furolo, agreed to.
Recommendation 8, on the motion of Mr Webber, agreed to.
Recommendation 9, on the motion of Mr Williams, agreed to.
Recommendation 10, on the motion of Mr Furolo, agreed to.
Recommendation 11, on the motion of Mr Secord, amended by the deletion of the words "on a consultancy basis", agreed to.

Recommendation 12, on the motion of Mr Aplin, amended by the replacement of "Transport" with "Education", agreed to.
Recommendation 13, on the motion of Mr Webber, agreed to.
Recommendation 14, on the motion of Mr Furolo, agreed to.
Recommendation 15, on the motion of Mr Colless, agreed to.
Recommendation 16, on the motion of Mr Williams, agreed to.
Recommendation 17, on the motion of Mr Secord, amended by the deletion of the word "higher" and the insertion of the word "improving" before "pedestrian safety" at the end of the recommendation, agreed to.
Recommendation 18, on the motion of Mr Furolo, amended by the deletion of the words "costs and benefits" and the insertion of the words "effectiveness of altering" before "the operation" at the end of the recommendation, agreed to.
Recommendation 19, on the motion of Mr Ayres, amended by the replacement of "rezoning" with "future schools" at the end of the recommendation, agreed to.

Resolved, on the motion of Mr Colless:
'That the Committee adopts the draft report into School Zone Safety (as amended) and signed by the Chair for presentation to the House and authorises the Secretariat to make appropriate final editing and stylistic changes, as required.'

Members expressed a vote of appreciation to the Chair and Secretariat for the work involved in the preparation of the report.

The Committee adjourned at 1.55pm until 1.00pm Wednesday, 4 April 2012.