Guidelines for Road Safety Around Schools

Local Government Edition

TOWARDS ZERO

WALGA ROADWISE ROAD SAFETY COUNCIL

SPEED AND RED LIGHT CAMERA FUNDED PROJECT

getting there together

Contents

Western Australian Local Government Association (WALGA), *Road Safety Around Schools Guidelines – Local Government Edition*, WALGA, February 2007.

Published February 2007, updated April 2015

General Information

The WA Local Government Association's RoadWise Program is the Local Government and Community Road Safety Program (WA).

WALGA's RoadWise Program works to build the capacity of Local Governments, the community and other agencies to effectively deliver road safety initiatives aligned to *Towards Zero*, WA's Road Safety Strategy 2008 - 2020.

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Acknowledgements

The Western Australia Local Government Association would like to acknowledge the Minister responsible for road safety, the Road Safety Council and the Office of Road Safety.

The RoadWise Program is funded by the State Government through the Road Trauma Trust Account (speed and red light camera fines) and the State Road Funds to Local Government Agreement (sourced from WA vehicle licensing fees)..

Acknowledgements

The assistance of many people who helped with the preparation of these guidelines is acknowledged.

The author, Peter Metropolis would like to thank:

David Harris - Institute of Public Works Engineering Australia
Brad Harris - City of Gosnells
Shane Purdy - Shire of Mundaring
Glenn Shaw - City of Wanneroo
Ossie Pereira - City of Gosnells
Rob Harvey - Main Roads WA
Emma Hawkes - Office of Road Safety
Kim Chute - Department of Education and Training
Terri-Anne Pettet - WA Local Government Association
Elizabeth Kelly - WA Local Government Association
Richard Bloor - Department of Education and Training

The WA Local Government Association would like to acknowledge the following organisations for reviewing the text included in this publication:

Main Roads WA
Department for Education and Training
Office of Road Safety
Public Transport Authority
WorkSafe WA
WA Police
Department for Planning and Infrastructure
School Drug Education and Road Aware Program
City of Stirling
City of Gosnells
Town of Victoria Park
Town of Narrogin
Shire of Roebourne
Shire of Greenough
Shire of Broome
City of Melville
City of Bunbury

Road Safety Around Schools Policy Forum:

Cr David Boothman - City of Stirling
Cr David Willis - Shire of Plantagenet
Cr Tracey Roberts - City of Wanneroo
Cr Brian Warner - City of Rockingham
Cr Trevor Clarey - City of Stirling
Shane Purdy - Shire of Mundaring
Paul Giamov -City of Canning
Allan Ralph -Shire of Broome
Allan Claydon -City of Mandurah
David Harris - Institute of Public Works Engineering Australia
Debbie Terelinck - WA Local Government Association
Vanessa Jackson - WA Local Government Association
Terri-Anne Pettet - WA Local Government Association

The WA Local Government Association extends thanks to the author of this publication, Peter Metropolis, Metropolis & Associates Pty Ltd

Purpose

The Western Australian Local Government Association (WALGA) developed these guidelines with the support of the Road Safety Council for use by Local Government and technical people interested in road safety in the vicinity of schools. They are intended to enhance the safety of children travelling to, from and around schools by:

- Providing information on the road safety issues involved.
- Providing information on how best to maintain or improve road safety for children travelling to and from schools as well as advising where further assistance might be obtained.
- Providing answers to commonly asked questions about road safety issues around schools.

The information presented is not exhaustive and solutions suggested may not provide all the answers. Ultimately, investigation of the issue and implementation of solutions is the responsibility of particular authorities. Those investigations may involve a detailed engineering assessment including, as necessary, formal road safety audits by qualified personnel.

Background

Road safety is of significant concern to all levels of Government and the community generally. Everyone is affected in some way by the trauma road crashes cause. The Road Safety Council strongly supports efforts to improve road safety and *Towards Zero,* WA's road safety strategy 2008-2020.

The Road Safety Council (see page 23) and WALGA endorsed *Towards Zero* which is based on the safe system approach that benefits all road users by identifying strategies for: safe road use; safe roads and roadsides; safe speeds; and safe vehicles. As Local Governments are responsible for maintaining 88% of the WA road network, they have a major role to play in road safety around schools.

The WALGA, on behalf of Local Governments, worked with the Road Safety Council and its member agencies to develop strategies to improve road safety around schools. These include special road safety audit templates to assist qualified road safety auditors to identify special problems that can occur during the planning, design, development and operations of schools and a review of guidelines, policies and procedures for road safety at new and existing schools. The latter will lead to improvements in organisational policies and procedures for planning new schools and redeveloping existing schools by ensuring road safety is a major consideration.

There are also a variety of programs specifically aimed at improving the safety of children while travelling to and from school e.g. special school zone speed limits; and the *Safe Routes to Schools Program*, which aims to:

- establish a network of safer routes for children to travel to and from schools;
- encourage more children to walk or cycle to school; and
- educate parents and care givers in safe behaviours around schools particularly when picking up and dropping off children.

How to use these Guidelines

These guidelines are divided into relevant headings to assist practitioners with solving road safety problems near schools.

Legal responsibilities of various authorities for roads and infrastructure associated with roads and road safety at existing schools are listed below.

Typical road safety problems and solutions are identified on page eight. An *ideal school* from a road safety perspective is described on page 23.

The roles and responsibilities of Government agencies and Local Governments in respect to road safety are listed from page 23.

Common road safety problems experienced by schools are discussed on page 25 with possible solutions.

Legal responsibilities

Almost all actions to address particular road environment safety problems can only be implemented within the authority provided by legislation such as the *Traffic Act 1974, Road Traffic Code 2000, Local Government Act 1995* and subordinate local laws adopted by Local Governments. For example, school warning signs are road signs as defined in legislation that can only be installed or removed with the authority of the Commissioner of Main Roads. The following table provides a guide on areas of responsibility relating to roads and infrastructure adjacent to schools based on the classification of the road.

Table 1: Responsibilities for various facilities on roads

Road next to school	**Responsibility**
All Roads	
• Traffic control signals (including pedestrian lights) • Road markings (centre lines, edge lines, lane lines, school crossing markings, zebra crossings) • Road signs (Stop, Give Way, Speed Limits, Keep Left, etc.) • Bicycle lanes (on road)	Main Roads WA for: • road signs • traffic-control signals • pavement markings • making roads one way • providing special lanes such as bus lanes or bicycle lanes on roads Note: Main Roads WA may have delegated responsibility for installing and/or maintaining some signs and some road marking to Local Governments.
Children's crossings	Applications assessed, approved or declined by the Children's Crossing and Road Safety Committee via the Children's Crossing Unit (WA Police). Recruitment, training, equipping and assessing Traffic Wardens by the State Traffic Warden Management Unit (WA Police). Main Roads WA installs the crossing road markings, appropriate regulatory signage, and red and white crossing bollards. Local Government installs parking bays, footpaths, shared paths and street lighting.

Footpaths, shared paths and bicycle paths (except freeways and control of access highways)	Local Government (or developer at development stage) is responsible for construction. Approval for shared paths, bicycle paths is responsibility of Commissioner of Main Roads. In most cases the Commissioner of Main Roads has delegated approving and signing responsibilities to Local Governments for shared paths.
Main roads and highways	
Road widening, resurfacing, medians, pedestrian refuge islands, pedestrian bridges, subways, driveways.	Main Roads WA
Parking signs (any restrictions on parking or permissive parking)	Main Roads WA. In some rural towns on main roads and highways, Local Government may have been delegated the responsibility by Main Roads WA.
Bus stops	Public Transport Authority
Street lighting	Main Roads WA in conjunction with Local Government (*Main Roads Act 1930*)
Local roads	
Road widening, resurfacing, medians, pedestrian islands, pedestrian bridges and subways and driveways.	Local Government
Warning signs (children and school signs, intersection warning signs)	Main Roads WA within the Perth metropolitan area. Local Government for all local roads outside the Perth metropolitan area (delegated by the Commissioner of Main Roads).
Parking signs (any restrictions on parking or permissive parking)	Local Government where they have adopted a local law under the *Local Government Act 1995* or by delegation from the Commissioner of Main Roads. Main Roads WA is responsible where no local law has been adopted or delegation is not accepted.
Bus stops	Public Transport Authority
Street lighting	Local Government
"No Through Road" signs	Main Roads WA for road-side signs where road has through-road characteristics or Local Government (on street name signs) for other roads

Parking areas on school land

Private schools: it is generally the responsibility of the developer to provide off-road parking for new private schools and the redevelopment of existing private schools. However, overall parking requirements are determined as part of the planning/design process and approvals are sought from Local Government to establish these areas including access.

State schools: the Department of Education is responsible for state schools and it liaises with Local Government on parking needs. In general terms, the Department of Education is not in favour of setting aside land on the school site for parking; however, if land is available off-site (within the road reserve that abuts the school site) pick-up/set-down areas may be negotiated with the Local Government.

Identifying problems

Road safety problems around schools are usually identified by school staff, parents and care givers of students, or local residents. Local Governments may also identify problems through:

- Site inspections including *Safe Routes to Schools Programs* and road safety audits.
- Analysis of statistical information such crash data and traffic information.

Typical problems at or near schools include road user problems such as excessive speed, poor parking habits and U-turns. Road and environmental problems include poor road alignment; poor surface conditions; lack of drainage; lack of adequate parking; poor visibility; inadequate road crossing locations; inadequate and/or poor footpaths, shared paths, kerbing; lack of hand rails and pram ramps; inadequate intersection controls; and lack of road signs.

Finding solutions

Some solutions are obvious while others may require expertise in traffic management and road safety. While it is not possible to prescribe solutions for every situation, the following information may assist to identify potential solutions. It is advisable that practitioners look at all the relevant issues and potential solutions from a holistic viewpoint to avoid unintended consequences i.e. a solution solves one problem but creates another.

Traffic Speeds

Traffic speed is one of the most important issues relating to safety and there are many techniques for reducing or maintaining traffic speeds at reasonably safe levels. The installation of special school zone speed limits is one technique and it is the policy of Main Roads WA to install these limits along all school frontages. School zone speed limits are installed as follows:

- 60km/h school zone on 80km/h and higher speed limit roads.
- 40km/h zone on 60km/h and 70km/h speed limit roads.
- 40km/h lineal or area speed zone with school tag on 50km/h speed limit roads.

Application is made to Main Roads WA for installing and maintaining these signs.

Photograph 1: School Zone speed limit signs

While school zone speed limits, with regular enforcement, have been shown to reduce vehicle speeds, engineering alterations to the road and its environment are also effective. Treatments that induce lower speeds include:

- Roundabouts
- Channelling islands at intersections
- Median islands and kerb protrusions (nibs) to narrow available pavements
- Speed humps - design is important and more aggressive humps are more suited to car parks and accesses
- Raised plateaus (application as part of overall road treatment only - care is required to not make ramp slopes too steep so as to give the impression that the plateau is an extension of a footpath or that it is a protected crossing)
- Angled slow points (single or double)
- Serpentine, chicane or blisters.

Reference should be made to Main Roads WA publication *Guidelines for Local Area Traffic Management*, Australian Standards publication AS 1742.13 and Austroads: Guide to Traffic Engineering Practice – Part 10: Local Area Traffic Management (http://www.onlinepublications.austroads.com.au/script/home.asp) regarding the suitability of these treatments and the processes recommended for determining appropriate traffic calming measures.

Practitioners should refer to appropriate guidelines regarding the design of various treatments. Austroads is a useful resource (http://www.austroads.com.au under publications section).

Advisory 40 pavement markings

In photograph 1, the number 40 is shown as outlined by a yellow square of paint. Main Roads will consider limited application of yellow square 40 markings on 60km/h and 70km/h dual carriageway heavily trafficked roads.

Yellow flashing warning lights

Main Roads WA is installing flashing yellow warning lights (wig-wags) on the approaches to and at children's crossings to improve safety. The purpose of the flashing lights is to warn drivers of the crossing ahead at which they may be required to stop. Installation is limited to places where visibility at crossings is reduced and only on roads with very high volumes of traffic travelling at speeds higher than the 50km/h built-up area speed limit.

Engineering

Road design and the general environment in which roads are constructed have a strong influence on road safety. There are several important attributes of road environments and user movements to provide safety in the vicinity of schools. The major ones are as follows.

- Traffic speeds should be low – desirably 40km/h or less. The road configuration/geometry should be such that it creates the expectation of a low speed environment.
- Parking should be adequate and appropriate to the location to allow safe picking up and setting down of children. Sufficient parking has to be provided by schools for staff, casual/parent assistance and visitors to ensure there is no overflow impact on pick up and/or set down requirements.
- Footpaths and shared paths should be provided on the school side of the road for children walking and cycling to and from school or walking to bus stops or places where they are picked up or dropped off.
- Roads should generally be free from congestion.
- Traffic circulation should be enhanced by treatments that encourage vehicles to travel in a direction that enables dropping-off and picking-up on the school side of the road.

- Sight lines for drivers to see children and be seen by children should be clear at intersections and all places where children might cross a road.
- Road crossing places for children should be safely located and adequately signed.
- Attention should be given to ensuring visibility is adequate for drivers to safely enter and leave parking areas and to see children on intersecting paths.
- All pedestrian and bicycle access ways should be free from visibility constraints.

Roundabouts

Roundabouts are a useful speed control treatment at local road intersections. They provide a means for drivers to execute U-turns with reasonable safety, and assist parents/care givers to pick-up or set-down children on the school side of a road without having to attempt U-turns near the school. Particular care should be taken when considering roundabouts at intersections where there are high numbers of pedestrians or cyclists crossing one or more of the roads. Children in particular should be encouraged to cross roads away from roundabouts with high traffic flows. Children should preferably cross where median refuge islands are installed.

Care should be taken in the design of roundabouts to ensure deflection angles necessitate vehicles to travel slowly through the roundabout and vegetation in the central island allows drivers to see through the roundabout.

Photograph 2: Roundabout (single lane)

Median islands and nibs

Median islands enable pedestrians to cross roads in two stages by providing intermediate refuge. They also serve a traffic management function by:

- reducing the road space available to traffic and lessening the distance pedestrians have to cross to places of refuge;
- deterring overtaking (particularly important near schools);
- providing shelter for turning vehicles at breaks in the raised median island; and
- providing side friction that reduces traffic speeds.

An additional benefit is they can assist wardens at children's crossings to control both directions of traffic flow from a refuge position if necessary. Nibs that are often associated with indented parking stalls also narrow the pavement width for through traffic and lessen the road width pedestrians have to cross.

Photographs 3: Median islands (two examples)

Speed humps and plateaus

Care must be taken in the use of speed humps and plateaus. Humps are generally rounded whereas plateaus have ramp slopes each side of a flat area. Humps and plateaus that have gentle slopes are suitable on local roads provided they are part of an overall approach to slowing traffic on that road. They must be accompanied by pavement markings (piano key type) and warning signs with advisory speed limits.

Photograph 4: Speed humps

Angled slow points, chicanes and blisters

These treatments are generally not appropriate in front of schools as drivers tend to focus on negotiating the treatments rather than being alert for children. The treatments also tend to be difficult for cyclists; however, they may be appropriate away from schools (particularly blisters) to slow traffic on the school approach roads. Blisters are oval shaped islands within a road that introduce a curve in each direction which vehicles are required to navigate around.

Photograph 5: Blister island

Photograph 6: Chicane

Partial and full closures

There are a variety of treatments that restrict access to roads and calm traffic; however they also have a significant effect on permeability of traffic flow with through traffic being diverted to other roads. Such treatments should only be considered as part of an area-wide review of traffic safety and access with the safety implications on schools considered in that context. Full road closure is usually a last resort.

Parking

It is important to understand what is meant by the terms “Stop” and “Park”. The *Road Traffic Code 2000* (regulations that dictate how people and vehicles may use roads) includes the following definitions and these should be mirrored in Local Laws adopted by Local Governments in relation to parking.

“Stop” in relation to a vehicle, means to stop the vehicle and permit it to remain stationary, except for the purpose of avoiding conflict with other traffic or of complying with the provisions of any law.

"Park" means to permit a vehicle, whether attended or not, to remain stationary, except for the purpose of:

a) avoiding conflict with other traffic;
b) complying with the provisions of any law; or
c) taking up or setting down persons or goods (*maximum of two minutes*).

In essence, where there are *No Stopping* signs, a vehicle may not stop unless held up by traffic. *No Parking* means a vehicle must not stop for longer than is necessary to pick-up or set down people or goods and not for longer than two minutes. An extension is permitted for the disabled provided the vehicle has an appropriate authorising sticker.

No Stopping Sign *No Parking Sign*

For lengths of roads intended for pick-up and set down areas only, *No Parking* signs can be used. Some Local Governments apply special signs that indicate only picking up and setting down is permitted. While these may be appealing, uniformity of signing is important so drivers understand the meaning of signs as they travel from one area to another. However, *Kiss and Drive* signage appears to be used by a number of Local Governments in lieu of No Parking and their purpose seems reasonably well understood. Practitioners who use these types of signs should ensure Local Laws support their use and there is uniformity in application.

These types of signs (including *No Parking*) are appropriate to use on a length of road immediately in front of a school. They allow children to be dropped off or picked up in quick time. However, in the after-school period, parents and care givers often arrive earlier than school finishing time so pick-up sections are usually inadequate to serve their needs; therefore parking bays/areas that cater for parking of vehicles are necessary.

Introducing no parking zones improves road safety for pedestrians crossing streets, particularly for children who are often hidden from view between parked cars.

Number of parking bays required

School parking requirements relate to the number of attending students. While access to public transport, community vehicle ownership and population densities can influence parking needs, practical assessment of numerous schools found that parking requirements mostly relate to student numbers. The formula applied by Local Governments and accepted by the Department of Education for parking is:

- Approximately 14 pick-up and set-down bays per 100 children enrolled at primary schools and seven per 100 children for high schools.
- School staff parking accommodated on the school grounds.

Generally, the amount of parking required for dropping children off before school is less than that required for picking children up after school. While the above formula generally applies, some variations may be acceptable depending on the location of the school and access to public transport. Schools can also vary in numbers of students from one year to the next and care should be taken to ensure parking is adequate to meet reasonable needs. Some important requirements of parking bays/areas include the following:

- Parking (including pick-up, set down and longer term parking bays) should be on the school road side where possible. Where parking is provided off-road, one way traffic

flows should be developed within the parking area.

- Parking restrictions for a short distance on the road side opposite the school entrance should generally be *No Stopping* during periods before and after school. This discourages children being dropped off on the road side opposite the school and having to cross the road.
- The need for vehicles to reverse where there are child pedestrians in the vicinity should be avoided.
- Where a school has multiple road frontages, parking and access to off-road parking should preferably be on low volume roads.
- Entries and exits to off-road parking should be separated from entries for bicycles and pedestrians.
- Traffic speeds in parking areas must be low (no more than 10km/h) and often best achieved by speed humps and raised plateaus within lanes next to or at the ends of parking areas. Pavements of dissimilar colour to normal roads are preferred for car parks.

On-road parking

Embayed parking is preferred along school frontages. This enables kerb nodes to protrude at intervals along a road that reduces pavement widths for through traffic and provides places where pedestrians can see past parked vehicles and be seen by drivers. See photographs 7, 8 and 9.

Photograph 7: Embayed parking along a side road between two schools

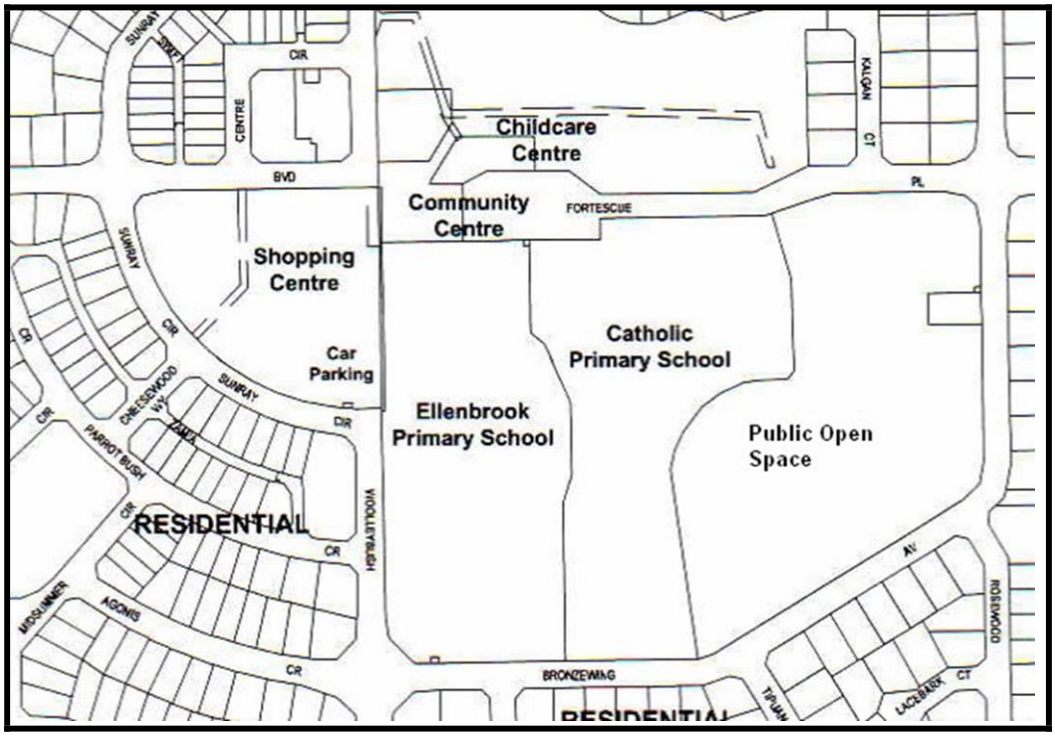
Photograph 8: Embayed parking

Photograph 9: Angle parking on a side road to a school

Off-Road Parking

In some instances parking can be supplemented by using adjacent sporting facilities or shopping centre parking. Figure 1 shows the configuration of schools in such a situation.

Figure 1: Primary school adjacent to shopping centre



In the above example, parents and care givers can park the shopping centre car park opposite the primary schools to drop off or pick up children. Fortescue Place fronting the schools is a cul-de-sac with very generous parking integrated into the turnaround area. The adjacent public open space is also useful in not requiring children to cross a road to use school facilities.

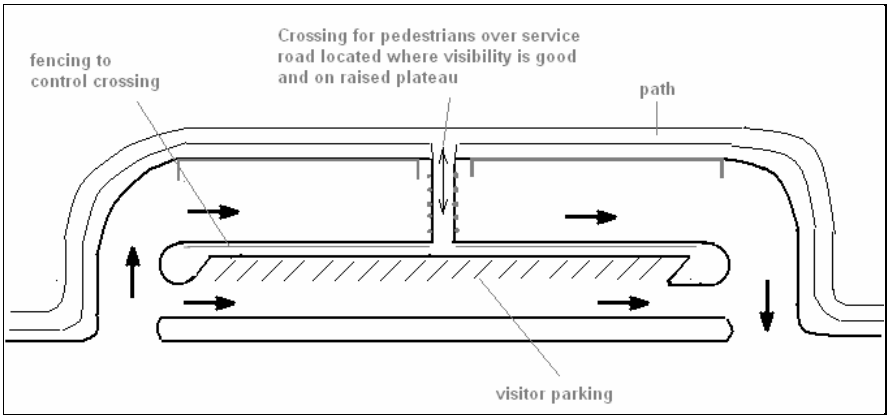
Photograph 10: Parking shared with adjacent sporting facility within a cul-de-sac (Composite photo - school on left and sporting ground on right)

Photograph 11: Off road parking (note one way traffic flow and path on school frontage)

Photograph 12: Off-road parking

Bus parking can be off-road as shown in photograph 12; however bus turning circle requirements can be prohibitive and it may not be possible to cater for buses other than in indented parking areas on the road.

Figure 2: Illustration of off-road pick-up and set-down area (schematic only)



Photograph 13: Entry to high school off-road parking and pick up/set down area (one way traffic flow)

Bus Facilities

It is desirable for public buses to drop off and pick up children on the school side of a road at bus stops close to but not immediately in front of school entrances. While attempts should be made to obtain public bus services close to schools, bus scheduling and route selection sometimes do not match students' requirements, which can lead to safety problems. Studies of children commuting to school in Western Australia have consistently shown that children are most at risk when they are entering and exiting buses, rather than when they are travelling on the buses.

School planners should consider public transport needs in relation to the location of stops because it is important to children safety. Wherever possible, stops should be located on the school side of the road away from areas congested by parked vehicles. Bus stops on the opposite side of the road to a school should be similarly located and there should be good visibility to the bus stop and safe places for children to cross to them.

The *Road Traffic Code 2000* (and in Local Laws) prohibits vehicles stopping within 20m of the approach side and 10m of the departure side of a bus stop. If the stop(s) needs to accommodate more than one bus at a time or an articulated bus, it may be necessary for *Bus Zone* signs to be installed defining the length or kerbside space required. This is usually accompanied by a dashed line, marking the bus parking bay between *Bus Zone* signs.

Bus Zone sign

It is illegal for vehicles other than public buses to stop at a *bus stop* or within a *bus zone.*

Photograph 14: Bus stops within bays (bus zones)

The absence of bus stop bays on a road can cause safety and traffic congestion problems especially as traffic will congregate behind a stationary bus picking up or dropping off passengers. This is generally not acceptable depending on traffic circumstances and is not appropriate on important traffic arteries. On local roads, a bus blocking the flow of following traffic for a short time is usually less of a problem; however it is a matter of assessment of individual circumstances by experienced road safety practitioners. In the case of arterial roads, traffic must be able to pass a stopped bus without crossing the centre of the road, which may require a bus bay to be constructed.

The Public Transport Authority must be consulted in respect to the location of bus stops and the provision of bus bays.

School owned buses

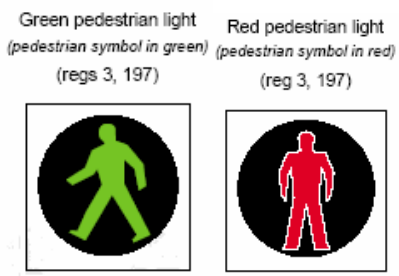
In some instances a school may have its own bus. Stopping areas for these buses is usually on school grounds. The places where these buses stop should be clearly marked and separate from other parking. Stopping areas should avoid the need for the bus to reverse; and children should be able to leave and enter the bus directly from a path.

Road crossings

The ability of children (and other pedestrians) to safely cross roads is very important. Road crossing types include pedestrian *bridges* and *underpasses*, *traffic-control signals*, *marked foot crossings*, *pedestrian crossings* and *children's crossings*. Apart from bridges and underpasses, the others are defined in the *Road Traffic Code 2000* because traffic laws govern their use. Bridges and tunnels are costly to build and are reserved for high pedestrian demand and high vehicle movement. Practitioners should consult Main Roads WA in relation to these facilities. Information on the application of these facilities can be viewed at http://www.mainroads.wa.gov.au [Refer to Standards – Roads and Traffic Engineering – Traffic Management – Pedestrian Crossing]. Applications for facilities other than children's crossings should be directed to Main Roads WA.

Traffic-control signals

Traffic-control signals are installed at intersections with high volumes of conflicting traffic (refer to Main Roads WA website above). The signals may incorporate pedestrian walk/don't walk lights; however young children have difficulties understanding the operations of traffic control signals therefore they may not be a suitable solution for young children crossing roads. Traffic-control signals are a regulatory device that requires the Commissioner of Main Roads approval to install or modify. The provisions of regulation 297 of the *Road Traffic Code 2000* relate to the Commissioner's powers.



Marked foot crossings

These are pedestrian operated signals (a variety of which are 'pelican crossings') complemented by road markings. Marked foot crossings can be part of intersection signals (the pedestrian lights with lines across the road to mark where pedestrians must walk) or be a separate crossing facility installed between intersections. They are installed only where vehicle traffic movements and pedestrian crossing demands are high. As young children usually have difficulties understanding the operations of these facilities, they should generally not be installed just to facilitate young children crossing busy roads. Marked foot crossings are also a regulatory device that requires the Commissioner of Main Roads approval to install or modify. The provisions of regulation 297 of the *Road Traffic Code 2000* are relevant.

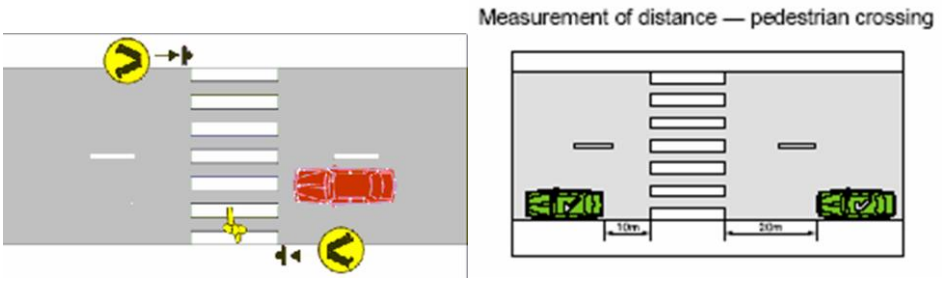
Photograph 15: Marked foot crossing

Pedestrian Crossings

A pedestrian crossing is a regulatory

device that requires the Commissioner of Main Roads approval to install or modify. They are broken lines painted on the road together with a *walking legs* sign on each side of the road on the approach side of the crossing. These crossings impose a mandatory *No Stopping* prohibition of 20m on the approach side and 10m on the leaving side of the crossing. The provisions of regulation 297 *Road Traffic Code 2000* relates to the Commissioner's powers and regulation 144 refers to parking prohibitions that should be mirrored in local laws.

Figure 3: Pedestrian crossings (one showing signs and the other No stopping distances)



This crossing type requires consistent use by pedestrians to provide a reasonable level of safety (refer to Main Roads WA website). They should not be installed where pedestrian use is low or spasmodic. Infrequent use leads to drivers not expecting pedestrians to be on the crossing; therefore drivers are surprised when a pedestrian steps onto the road at the crossing point. This crossing type is not particularly safe for primary school children as they have difficulty judging the closing speed of approaching traffic. Children may step onto these crossings in the belief that vehicle drivers have seen them and stop in time. Consequently, installing pedestrian crossings to cater just for school children is not recommended.

Children's crossings

Children's crossings provide children the highest level of protection of all crossing types. Trained and equipped traffic wardens operate the crossing and traffic is controlled by stop banners held by the warden. These crossings are installed where high numbers of children cross high traffic volume roads according to a formula applied by the Children's Crossing and Road Safety Committee. This Committee, which is chaired by the WA Police, comprises representatives from Main Roads WA, Department of Education, WA Local Government Association and education providers.

Children's Crossing Stop Banner

Photograph 16: Children's crossing signs

Photograph 17: Children's crossing

Note that Traffic Wardens place *children crossing* flags in holders fitted to *children's warning* signs on the approaches to crossings when it is operating. *Children warning* signs are a permanent feature within the road reserve. The children's warning signs are not reflectorized as they are not intended for use at night. The design drawing for children's crossing markings, signs and bollards can be viewed on the Main Roads WA website under *standards - road & traffic engineering - traffic management – pedestrian crossing – traffic warden controlled children's crossings.*

Applications for children's crossings

Only a school Principal or the school President or Secretary of a recognised school parent body can apply to the Children's Crossing and Road Safety Committee for a children's crossing to be installed. The application is submitted to the Children's Crossing Unit, WA Police which undertakes surveys of student and vehicle numbers; and assesses the proposed crossing site.

Where surveys determine student numbers and traffic volumes are high, the Committee will offer a Type A children's crossing to the applicant school. The traffic warden for a Type A crossing is funded by the State Government.

Where the surveys determine student numbers and traffic volumes are moderate, and hazards are not abnormal, the Committee will offer a Type B children's crossing to the applicant school. The traffic warden for a Type B crossing is funded by the school or school parent body.

The Committee will decline an application where surveys determine student numbers and traffic volumes do not warrant a children's crossing.

Main Roads WA in conjunction with the relevant Local Government install the infrastructure for an approved Type A and B children's crossing.

The Traffic Warden State Management Unit, WA Police is responsible for recruiting, training, equipping and assessing traffic wardens for approved Type A and B children's crossings.

Details regarding applying for a children's crossing can be accessed via the WA Police website.

Safe Routes to School

Safe Routes to School is a scheme whereby the safest walking route(s) to and from school are marked with blue footprints along paths and stop smiley faces at road crossing points. More information regarding this scheme is available on the WALGA RoadWise website.

Photograph 18: Footprints marked on a path by school children as part of Safe Routes to School.

Bicycle Safety

Current traffic law allows children less than 12 years of age to ride on a footpath. While the number of cyclists varies from school to school it is important the safety of child cyclists be considered. For instance, paths around schools should be wide enough to cater for cyclists and pedestrians to share. At places where paths meet roads, consideration should be given to encourage children to dismount from bicycles when crossing roads rather than attempting to ride across them. Entrances to bicycle parking areas on school grounds should be separate from entrances for motor vehicles and pedestrians. Potential conflict between motor vehicles and bicycles should be avoided e.g. sight lines are clear of obstacles.

Pedestrian Fencing and Landscaping Barriers

Pedestrian fencing is generally used in association with crossing facilities where safety dictates that children be directed to places where crossing is appropriate and deter them from crossing where it is unsafe. Fencing may be used on nature strips or wide medians; however it should be used sparingly and carefully applied since it also prevents pedestrians leaving a carriageway. Attention should be given to the placement and height of fencing to ensure it does not obscure sight lines for pedestrians wanting to cross a road and vehicle drivers from being able to see pedestrians – children in particular. Landscaping barriers are generally not favoured because they tend to interfere with sight lines or distract pedestrians from looking for oncoming vehicles. If these barriers can be crossed relatively easily by children they will do so resulting in them being hidden from drivers.

Transportable Classrooms

Engineering issues can also arise as a consequence of changes to schools such as the introduction of additional or transportable classrooms.

When student numbers rapidly increase at a school, the Department of Education usually responds by installing transportable classrooms. These are placed on the school site in positions that generally suit school administration needs and in most situations is done in consultation with Local Governments. The Department of Education determines the number of transportable classrooms to be installed at a school and the number is restricted. The location of these rooms can impinge on road safety particularly for unfenced schools. Students tend to take the shortest route home; therefore the installation of transportable classrooms may cause student pedestrians to take routes not previously used to leave school grounds. In such circumstances, new paths and pedestrian facilities and perhaps additional parking should be considered.

The ideal school

While many school-road configurations provide a high level of safety for children, some of the elements that make these schools safe are listed below.

- Road access to schools should be on at least two sides, but preferably three. It is desirable that one is a local distributor/connector road.
- The entrances to the school should be from a local road.
- Off-road parking for parents/care givers where speeds are restricted by raised plateaus.
- Indented on-road parking away from the entrance on the local road(s).
- Pick-up and set down area on a one way service road near the front of the school or on the local road in front of the school, which is achieved by installing *No Parking* signs along the road that may need periodic enforcement.
- Traffic circulation should be governed by treatments that encourage vehicles to travel in a direction enabling drop-off and pick-up on the school side of the road.
- Turn around areas should be provided where necessary e.g. roundabouts at convenient nearby intersections.
- Pedestrian and school bicycle access ways not conflicting with motorised traffic.
- School staff parking away from other parking and on school grounds.
- Median refuges on the local distributor road next to school.
- Bus stops on the school side away from main congestion areas (main entrance).
- School recreational areas adjacent to the school.
- Good visibility at all entry points/driveways and road crossings.
- Traffic speeds on local roads around the school limited by engineering treatments to not more than 40km/h (roundabouts, general streetscape modifications) and these may require periodic enforcement.
- School warning signs should be installed and clearly visible on all school approaches.
- *No Stopping* kerbside prohibitions should be imposed on the side of the road opposite the school for an hour before and after school times (this may require periodic enforcement).
- Children's crossings (where warranted) should be located where children congregate to cross roads provided it is deemed to be the safest place to cross.
- Paths (footpaths and shared paths) should provide easy access to schools and be located on the school side of the road.
- WALGA RoadWise should be consulted where a safe routes to schools program has not been implemented.
- Where one road is a cul-de-sac there must be a very generous car park/turn around area at the end of a cul-de-sac.

Roles and responsibilities of organisations

Responsibility for road safety is a community-wide issue. Everyone must be involved in road safety to achieve substantial reductions in road trauma. Communities working together achieve the greatest benefit and this applies to road safety near schools. Various agencies have a role regarding roads adjacent to schools and their responsibilities are as follows.

Road Safety Council

The Road Safety Council is the peak road safety body and has formal responsibility for advising Government on programs and initiatives for reducing road trauma in Western Australia. It considers advice from evidence-based research, community consultation and the main government agencies and stakeholders who have a role in road safety. The Council's functions are to:

- Identify and recommend measures to improve the safety of the State's roads.
- Identify and recommend measures to reduce deaths and injuries from road crashes.
- Evaluate and monitor the effectiveness of these measures.

- Evaluate and monitor the safety of roads in the State.
- Make recommendations to Government on the expenditure of monies allocated to the Road Trauma Trust Account.

The members of the Road Safety Council are appointed by the Minister for Road Safety and its operations are governed by the *Road Safety Council Act 2002*. Membership of the Council currently consists of representatives from:

- Western Australia Police
- Main Roads Western Australia
- Department of Transport
- Department of Planning
- Western Australian Local Government Association
- Department of Health
- Department of Education
- Insurance Commission of Western Australia
- Royal Automobile Club of Western Australia (representing all road users)
- Office of Road Safety

More information can be obtained from the Office of Road Safety website (www.ors.wa.gov.au).

Office of Road Safety

The Office of Road Safety is the lead road safety agency responsible within government for leading, developing, coordinating, promoting and monitoring the *Towards Zero* Road Safety Strategy to reduce road trauma in Western Australia 2008 – 2020. The Office of Road Safety:

- Leads, coordinates and monitors the implementation of *Towards Zero*.
- Develops policies and strategy development on road safety (research, monitoring and evaluation of road safety programs).
- Develops and delivers effective road safety education campaigns.
- Administers moneys allocated to the Road Trauma Trust Account (RTTA).
- Manages and provides administrative support to the Road Safety Council.
- Provides road safety advice based on research, evidence and community engagement.
- Provides support to the Road Safety Council.

Local Government

Local Governments, which have responsibilities for roads as defined in the *Local Government Act 1995*, own and manage 88% of the road network in Western Australia; therefore they can have a significant influence on road safety around schools. Local Governments are responsible for building and maintaining all local roads including intersection treatments, driveways, traffic islands and median strips, nature strips and all types of paths adjacent to local roads. On local roads outside the Perth metropolitan area, Local Governments are also responsible for installing and maintaining traffic warning signs as delegated by the Commissioner of Main Roads. In the Perth metropolitan area, Main Roads WA retains responsibility for warning signs, regulatory traffic signs, traffic control signals and line marking. Local Governments are responsible for the provision of kerbside parking prohibitions on most local roads in WA.

Local Government has the role of commenting on new subdivision developments, including the provision of new schools and the redevelopment of existing schools. It specifies traffic management and safety requirements for school developments and can influence planning by offering advice on how best to orient the school to make best use of facilities such as joint use of parks/playing arenas/parking.

WA Local Government Association RoadWise Program

The WA Local Government Association (WALGA) is the peak organisation of Local Governments in Western Australia. The WALGA RoadWise Program supports Local Governments, community groups, private businesses and individuals to become involved in the road safety network around the State. Through a team of regional and metropolitan based staff, RoadWise supports local road safety committees, provides access to resources and training, and increases knowledge all of which contributes to building network capacity to make an effective contribution to improving road safety in Western Australia.

Department of Education

The Department of Education is responsible for establishing, developing and redeveloping Government schools. It works closely with respective Local Governments on planning and developing school parking facilities, location of transportable classrooms (if required) and vehicle access.

Department of Education – School Drug Education and Road Aware

The issue of road safety education generally in schools is not addressed in these guidelines albeit road safety awareness is part of school curriculum developed through the use of *School Drug Education and Road Aware* (SDERA) resources. SDERA offers two free resources to all WA primary schools. Teachers are encouraged to use these resources to plan and implement whole of school road safety programs. The resources target:

- *Early childhood* focussing on passenger safety; pedestrian safety; playing safely; and sensing traffic; and
- *Middle childhood* focussing on passenger safety; pedestrian safety; safety on wheels; and road signs and rules.

WA Police

The WA Police are responsible for enforcing traffic laws in Western Australia including enforcing kerbside parking restrictions and prohibitions when Local Governments do not have local laws for parking control. Within the WA Police:

- The Children's Crossing Unit is the contact point for applying for a children's crossing.
- The Traffic Warden's State Management Unit is responsible for recruiting, training, equipping and assessing traffic wardens in Western Australia.

Main Roads Western Australia

Main Roads WA is responsible for constructing and maintaining Western Australia's highways and main roads; regulatory traffic signs (apart from parking signs and road name signs), traffic-control signals and road marking. Main Roads WA work with Local Governments regarding infrastructure solutions to road safety issues around schools.

Common problems and possible solutions

This section identifies common problems at or near schools and suggests actions Local Governments can take to solve them. They are not exhaustive and require expertise in respective areas to implement. While much of the following relates to potential engineering solutions there are other actions such as education, encouragement or enforcement that may be appropriate.

It is important that solutions conform to good practice determined by qualified people. Effective solutions generally require contributions from road users, schools, various agencies and Local Governments.

Common problems and solutions at or near schools

Issue	Problem	Suggested solution
Speeding	Vehicles travelling too fast	• Check visibility of children/school warning signs. Remove obstructions. Request Main Roads WA to replace unserviceable signs; or install signs if not present. • Check visibility of school zone speed limits sign. Remove obstructions. Request Main Roads WA to replace unserviceable signs. • Seek police enforcement of special school zone speed limits. • Raise awareness of speeding in community newspapers; school parent body circulars; School Road Safety Committee (if exists); Student Road Safety Committee (if exists); and school newsletter. • Examine options to implement traffic calming measures.
Manoeuvring	Vehicles executing U-turns in driveways or near congested areas	• Advise parents and care givers through school newsletters or other publications of the dangers and advise of safer options. • Examine options for installing roundabout at nearby intersection. • Examine potential for a median island over length of school frontage.
Road crossings	Unsafe for children to cross a busy road or crossing at dangerous place	• Implement or review Safe Routes to Schools Program. • Request warning signs from Main Roads WA if not already installed. • Encourage children to shift to safer crossing location. • Liaise with school Principal to apply for a children's crossing to the Children's Crossing and Road Safety Committee. • Examine path and fencing requirements for preferred children's crossing location • Review the need for refuge/median islands. • Review the sight lines and school pedestrian entry/exit locations. • Review path locations and alignment. • Review the location of bus stops.

Parking	Vehicles parking illegally (double parking, parking on paths, across driveways, pedestrian ways or contrary to signs)	• Request enforcement by ranger or police as appropriate. • Review available parking - plan for increases if insufficient parking. • Advise parents and care givers through newsletters of dangers and liaise with school to seek safe routine for picking-up and setting down children on the school side of the road.
	Vehicles parking on the nature strip or parking on the road side opposite the school causing children to cross the road	• Review available parking - plan for increases if insufficient parking. • Advise parents and care givers through newsletters of dangers and liaise with school to seek safe routine for picking-up and setting down children on the school side of the road. • Install *No Parking on Nature Strip* signs or *No Stopping* signs where stopping is not appropriate on the road.
	Visitor parking inadequate	• Review available parking - if appropriate liaise with school Principal and/or the Department of Education to negotiate cost sharing arrangements for improved parking. • Encourage walking and cycling to and from school.
Paths	Pedestrians obstructing paths	Education through school newsletter.
	Damaged	Repair path. Schedule maintenance checks.
Intersection	Traffic queues; poor sight distance; pedestrian safety problem; and vehicle crashes	• Refer to Main Roads WA if road signs are an issue. • Improve sight distances if possible. • Review the need for engineering solutions (treatments). • Consider the need for relevant Road Safety Audits. • Consider eligibility for Australian Government or State Black Spot Funding.
Access	No ramps for pram or wheelchair access	Install if on a local road or refer to Main Roads WA if on a main road or highway.
Bicycles	Children not wearing helmets, riding incorrectly or dangerously	• Advise school Principal and discuss ways the school can assist. • Advise parents and care givers through newsletters of the dangers and inform of the benefits of wearing helmets.
	Bicycle parking racks not available at school Bicycles badly maintained	Advise school principal and discuss ways the school can assist.
	Bicycles using road rather than paths	Examine options to install *shared path.*
Bus	Bus stop in dangerous place, requires relocation or modification	Liaise with Public Transport Authority, school Principal and Main Roads WA.

Passengers in vehicles	Failure to wear seatbelts or inappropriate behaviour	Seek assistance from local police.
	Alighting from vehicle on the road side	Advise parents and care givers through school newsletter of dangers.
Road surface	Pot holed / cracked surface	Maintenance issue – schedule repair and regular checks.
Road markings	Inadequate or faded road markings, broken reflective markers	Advise Main Roads WA.
Advertising sign	Obscuring visibility	Investigate and relocate/remove depending on local law or refer to Main Roads WA.
Trees and shrubs	Obscuring visibility	• Remove or prune if on nature strip or median. • Liaise with the school Principal if on school land.
Heavy vehicles	Inordinate use of road	Undertake area counts and liaise with Main Roads WA on options.
Pedestrians	Children not using crossings; or concern with closeness of older pedestrians to traffic	• Evaluate location of the children's crossing and available network of footpaths. • Contact school Principal or school parent body to initiate intervention program
Traffic-control signals	Faulty signals; long traffic queues; or pedestrian demand high	Liaise with Main Roads WA.

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