

## **Supplement**

### **Traffic and Road Use Management Volume 2 – Guide to Road Safety**

## **Part 3: Speed Limits and Speed Management (2008)**

**July 2018**

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### **3 Different types of speed limits**

#### **3.2 Signed speed limits**

##### **3.2-1 School zones**

###### **1 Introduction**

This supplement is intended to provide a single point of reference for any organisation or authority involved with, or seeking information about, traffic management and road safety at schools.

Traffic conditions near schools can seriously affect the safety of school children. The traffic environment around schools is one of the most complex road transport environments normally encountered by motorists and the most complex traffic environment encountered by children. This is because traffic density and pedestrian movements are concentrated in short periods of usually 30 minutes in the morning and 15 minutes in the afternoon.

Part 4 of the *Manual of Uniform Traffic Control Devices* (MUTCD) contains the guidelines for speed controls.

This supplement provides solutions to aid drivers to recognise that children are impulsive, unpredictable and inexperienced, and encourages them to use caution in the vicinity of a school.

Pedestrian and vehicle interaction to improve safety around schools can be managed by means of traffic control devices from one or more of the following categories:

- a) school pedestrian facilities
- b) school parking facilities
- c) school cyclist facilities
- d) school warning facilities, and
- e) school zones.

###### **2 School pedestrian facilities**

###### **2.1 General**

The following sections provide guidance on the use of the various mid-block pedestrian crossing facilities at schools. Explanations of these terms can be found in the glossary accompanying this supplement.

Table 2.1 provides an overall guide to the selection of particular crossing facilities for various road types.

**Table 2.1 – Guideline for selection of pedestrian facilities based on road classification**

Facility	Freeway / motorway	Primary arterial urban / (rural)	Secondary arterial	Collector road	Local street
Refuge / traffic island, median	X	O	O	A	A
Kerb extension	X	X / (O) <sup>3</sup>	O	A	A
Road narrowing, indented parking	X	X	X	A	A
Pedestrian fencing <sup>1</sup>	X <sup>2</sup>	O	O	O	X
Speed control device	X	X	X	O	A
Pedestrian (zebra) crossing	X	X	O	O	A
Children's crossing	X	X	X	O	A
Pedestrian traffic signals	X	A ( / X)	A	O	X
Grade separated	A	O	O	X	X
Mall	X	X	X	O	O
Integrated	X	X	X	X	O

## Legend:

- A Most likely to be appropriate  
O Maybe be an appropriate treatment  
X Inappropriate treatment  
X / (O) Represents urban / (rural)

## Notes:

1. 'Pedestrian fence' in the context of this table is 'fence provided to guide pedestrians away from an unsafe crossing location'.
2. Pedestrian fence located within the road reservation is inappropriate on freeways / motorways because pedestrians are not generally present; however, boundary fences are normally erected along urban freeways / motorways to prevent access between interchanges, including pedestrian access.
3. Kerb extensions are not usually provided on urban primary arterial roads as road capacity and traffic efficiency are most important; however, a kerb extension at an appropriate set back from the edge of traffic lane may be appropriate on the approaches to a rural village as a form of 'gateway' treatment, the objection being to encourage drivers to reduce speed.

Source: Austroads Guide to Traffic Management Part 6 – 2017

## **2.2 Children's crossings**

### **2.2.1 Definition**

A children's crossing is an area of a road:

- a) at a place with stop lines marked on the road, and
  - i. children crossing flags, or
  - ii. children's crossing signs and twin yellow lights, and
- b) indicated by:
  - i. two red and white posts erected on each side of the road, or
  - ii. two parallel continuous or broken lines on the road surface from one side of the road completely or partly across the road, and
- c) extending across the road between the posts or lines.

### **2.2.2 Installation**

Children's crossings are usually installed near schools (within 200 m) where the requirements for such a facility arise only during specific and limited times of the school day. Where children's crossings are installed, pram ramps should also be installed. Where crossing is required for large numbers of students, an adequate safe waiting area should be provided unless an appropriate risk assessment has been carried out.

Where a children's crossing at a school is supervised during the times when it is operational (that is, when the 'CHILDREN CROSSING' flags are installed), the hand 'STOP' Banner (R6-7) should be used.

Children's crossings should not be installed on roads:

- a) where the posted speed limit is greater than 70 km/h, or
- b) where there is inadequate sight distance to the pavement at the crossing for the motorist from one of the approaches, or
- c) on multi-lane roads with more than two through traffic lanes in any one direction of travel, or
- d) at or close to intersections as the 'STOP' line installed as part of the children's crossing will require drivers to stop at all times at the intersection.

The installation of kerb extensions at children's crossings should be considered and installed wherever possible to:

- improve visibility and, therefore, safety of the children and School Crossing Supervisor, and
- reduce the travel distance between the kerbs and reduce the exposure time on the road for the pedestrians.

Where parked vehicles close to the children's crossing obscure the 'CHILDREN CROSSING' flags from approaching traffic, it may be necessary to install 'CHILDREN CROSSING' flags on kerb extensions. 'CHILDREN CROSSING' flags should be installed adjacent to the 'STOP' line marking.

Figure 2.4-A within Part 10 of the MUTCD shows the signing, line marking and parking requirements at a children's crossing.

### 2.2.3 Guidelines for installation

Children's crossings are warranted at schools where:

- a) numbers of school children cross a roadway, and
- b) the crossing can be located within 200 m of the school, and
- c) an undertaking can be obtained to:
  - i. display the 'CHILDREN CROSSING' flags (R3-3) during the period when school children are likely to be crossing the roadway proceeding to or from school (see Section 2.4)
  - ii. operate and maintain a School Crossing Supervisor during normal crossing periods while displaying 'CHILDREN CROSSING' flags (R3-3) and hand 'STOP' banner (R6-7), see Section 2.4. With the exception that School Crossing Supervisors do not operate on crossings that are used only by high school students or where the Transport and Main Roads' road safety advisors undertake a risk assessment (using the *School Crossing Supervisor Scheme Risk Assessment Report*) and determine that a School Crossing Supervisor is not warranted.

A School Crossing Supervisor may be required to operate at crossings of this nature during periods when the 'CHILDREN CROSSING' flags (R3-3) are displayed. This would necessitate the use of a hand 'STOP' banner as in Item 2.2.3c) 'ii' previously.

Note: Transport and Main Roads has developed a tool for assessing the risk at children's crossing using form F1840 (refer to Appendix D) and, therefore, the need for a School Crossing Supervisor:

- where the risk is 'high', a School Crossing Supervisor is provided
- where the risk is 'low', a School Crossing Supervisor is not provided
- where the risk is 'medium', a risk threshold is used to determine if a School Crossing Supervisor is provided.

### 2.3 Installation of combined children's crossings with pedestrian crossing (zebra) at schools

A pedestrian crossing may be installed within a school zone for use by pedestrians outside of school zone times. This facility is normally installed if there is substantial pedestrian use outside school zone times. Refer to Queensland's supplement to the Austroads' *Guide to Traffic Management*, being Transport and Main Roads' *Traffic and Road Use Management* (TRUM) manual Volume 1 *Guide to Traffic Management* Part 6: *Intersections, Interchanges and Crossings* Section 8.1-1 for further information.

Children's crossings provide a higher level of safety for school children than pedestrian crossings. Where a pedestrian crossing is installed at a school, a children's crossing should also be installed and an undertaking obtained to operate and maintain a School Crossing Supervisor during normal school crossing periods while displaying 'CHILDREN CROSSING' flags (R3-3) and hand 'STOP' banner (R6-7).

Pedestrian crossings are to be installed in accordance with Clause 6 of Part 10 of the MUTCD. Figure 2.4-B within Part 10 of the MUTCD provides details for signing and marking a combined children's crossing and pedestrian crossing (zebra) at schools.

## **2.4 Display of 'CHILDREN CROSSING' flags (R3-3)**

Refer to the Queensland *Manual of Uniform Traffic Control Devices* (MUTCD) Part 10 *Pedestrian control and protection* Section 7.2 *Description* Figure 7.2(a) – *Children's crossing* and Figure 7.2(b) – *Combined children's crossing and pedestrian crossing at schools*.

'CHILDREN CROSSING' flags (R3-3) shall only be displayed during times when children are likely to use the crossing. If the flags are displayed when children are not likely to use the crossing, motorists will disregard them. This can lead to increased risk to the children at other crossings.

Accordingly, 'CHILDREN CROSSING' flags shall be displayed only in accordance with the following requirements:

- a) Where there is a school zone, 'CHILDREN CROSSING' flags should be displayed during the hours of operation of the school zone. In special circumstances, 'CHILDREN CROSSING' flags may be displayed outside school zone hours when children are required to cross the road as part of their school activity.
- b) Where there is no school zone, 'CHILDREN CROSSING' flags should be displayed on school days only during the school zone operating hours within that local government jurisdiction.
- c) 'CHILDREN CROSSING' flags shall be displayed throughout the day at split-campus schools during the school zone operating times (refer to Section 8 for further details).

'CHILDREN CROSSING' flags shall not be displayed outside school hours. If children need to cross the road outside school zone times as part of their school activity, 'CHILDREN CROSSING' flags shall be installed only for the period that children need to use the crossing.

Since approach speeds to the children's crossing are higher outside school zone times, where practicable, children should be marshalled across the crossing by an adult.

## **2.5 Pedestrian actuated traffic signals (mid-block) at schools**

The principles for installation of pedestrian actuated traffic signals are outlined in Part 14 of the MUTCD. Refer to Clause 8 of Part 10 of the MUTCD for relevant line marking and signing arrangements.

Under special circumstances (for example, where a supervised crossing has been upgraded to pedestrian actuated traffic signals), a signalised crossing may be supervised during the times it is used by school children. This would generally be a transitional arrangement. The hand 'STOP' banner (R6-7) shall not be used at traffic signals.

Other measures which may improve safety at a signalised crossing include:

- a) increasing the width of the crossing from 2.4 m (accepted minimum of crosswalks near schools) to the preferred 3.5 m
- b) installing kerb extensions to reduce the travel distance across the road.

## **2.6 Traffic signals at intersections**

### **2.6.1 Installation**

Traffic signal facilities for pedestrians may be provided at intersections as follows:

- a) installation of new intersection signals on the basis of pedestrian warrants
- b) installation of crosswalk facilities at an existing signalised intersection.



### **2.6.2 Guidelines for intersection signals**

Refer to Part 14 of the MUTCD for the guidelines for the installation of traffic signals at intersections.

### **2.6.3 Guidelines for crosswalks at existing signalised intersections**

Refer to Part 14 of the MUTCD for the guidelines for the installation of crosswalks at signalised intersections.

## **2.7 Subways and bridges**

Refer to Table 2.1, Section 2.1 of this document to assess if grade separation is required and Part 10 of the MUTCD for the guidelines for the installation of subways and bridges.

## **2.8 Pedestrian refuges, medians and kerb extensions**

When designing physical pedestrian aids, it is important to ensure that the device will not create a hazard for other road users. The following issues shall be considered:

- a) devices shall not encroach on the travel routes of other road users, particularly cyclists
- b) devices shall be well-lit, delineated and appropriately signed to ensure they do not become a hazard at night
- c) bollards, fencing or vegetation installed on these devices shall not obscure sight lines to / from child pedestrians
- d) appropriate kerbing shall be used, that is, semi-mountable where the island is very close to the through lane, and
- e) the facilities shall be usable by people with disabilities, as well as be suitable for prams.

Part 10 of the MUTCD provides guidelines for the installation of pedestrian refuges, medians and kerb extensions. Further information on when to install these facilities is detailed in the Queensland supplement to the Austroads' *Guide to Traffic Management*, being Transport and Main Roads' *Traffic and Road Use Management* (TRUM) manual Volume 1 *Guide to Traffic Management* Part 6: *Intersections, Interchanges and Crossings*.

Pedestrian refuges, medians and kerb extensions have the effect of narrowing the road, thereby reducing the time that pedestrians are exposed to traffic when crossing the road. Provision of these devices may also have the added benefit of helping to reduce the speed of passing motorists by providing additional visual cues of the need to reduce speed.

## **2.9 Pedestrian fencing**

Pedestrian fencing is generally used at schools in association with other pedestrian facilities to direct children to crossing points, preventing crossing at uncontrolled locations. Fencing may also be used on pedestrian refuges or medians to encourage pedestrians to wait in the middle of the road before completing the crossing. Fencing on the kerb line also discourages motorists from parking close to a crossing point.

At some locations, it may be possible to avoid installation of pedestrian fencing outside the school grounds by relocating school gates to appropriate locations relative to pedestrian crossings or school transport facilities.

At locations where visibility is not a problem, and where the fencing is intended to direct pedestrians, rather than create an impenetrable barrier, landscaping may be an aesthetic alternative to mesh or

chain fencing. Maintenance issues of this option shall be considered. Fence material and construction should also be such as to minimise injuries to road users in the event of a collision (for example, horizontal rails shall not be used). Fencing on medians at staged crossings should be aligned so that pedestrians will face oncoming traffic as they are about to leave the median.

**Figure 2.10 – Pedestrian fencing on a median**



Particular attention should be given to the height and placement of the fence, and to the material used in its construction to minimise the potential sight obstruction between drivers and children about to cross the road. Fencing should be considered as a last resort because of the restrictions it imposes on pedestrians.

## **2.10 Yellow pedestrian holding line**

Yellow pedestrian holding lines can be used at crossing facilities to encourage school children to wait behind the line before directed to cross the road. This method may be useful at locations where school children tend to encroach onto the roadway while waiting to cross the road.

Part 10 of the MUTCD details yellow hold line requirements. It is recommended that this line be yellow and that the use of the yellow line be extended to any type of crossings at schools where school children are observed standing too close to the edge of the traffic lanes while waiting to cross the road.

Where there is a yellow 'no stopping' line extending across the crossing facility, a yellow holding line shall be installed as per Part 10 of the MUTCD to ensure that children do not attempt to stand at the yellow 'no stopping' line.

## **2.11 Placement of entry / exit points**

The location of entry and exit points to the school is essential to direct pedestrians, cyclists and vehicles to desired locations. Gates should be located so that children waiting to be collected by parents / carers can stay inside the school fence. This has benefits in terms of road safety by preventing children playing near or on the road, as well as personal safety.

Suitable placement of gates may remove the need for pedestrian fencing outside the school. Intended routes from inside the school to various transport facilities (that is, bus stops, car parks, and foot and cycle paths) should be clearly established to avoid conflicts and maximise efficiency of the other facilities. In particular, note that:

- a) children should not have to cross the main entry / exit point or walk through the offstreet parking in order to access other facilities
- b) gates should be placed at locations that direct children to the designated crossing points, and
- c) bicycle racks and access gates should be placed at locations where child cyclists can safely access cycle paths.

Additional guidance on the placement of entry / exit points can be found in *Planning for Safe Transport Infrastructure at Schools*.

## **2.12 Impact on pedestrian crossing infrastructure due to development**

The crossing facility provided at schools is based on traffic and road characteristics prevailing at the time the facility was constructed. Over time, traffic and road characteristics change and the appropriateness of the facility should be reassessed.

Where traffic and road characteristics change due to development within the vicinity of the school, the road authority should consider conditioning the developer to contribute towards the cost of installing appropriate infrastructure at the school. Local governments may be able to seek funding through the Transport Infrastructure Development Scheme to upgrade any existing school crossing facility.

Additional guidance on the placement of entry and exit points can be found in *Planning for Safe Transport infrastructure at Schools*.

## **3 School parking facilities**

It is important that adequate parking and pick-up and set down facilities are provided to ensure school children travelling to and from school in private motor vehicles and buses are not subject to pedestrian and vehicle conflict.

Where schools are located on roads with high traffic volumes, offstreet parking facilities are the preferred option (where the availability of land and funds permit). Bus and car parking facilities should be separated in both on and offstreet facilities.

Additional guidance on the provision of school parking facilities can be found in *Planning for Safe Transport Infrastructure at Schools*.

## **4 School cyclist facilities**

Adequate provision should be made for cyclists to enter and exit the school grounds safely.

## 5 School warning treatments

### 5.1 Warning signs

#### 5.1.1 General

Warning signs that may be used to warn motorists of the likely presence of school children on or crossing the road near schools include:

- a) 'Children' (W6-3)
- b) 'Pedestrians' (W6-1)
- c) 'Bicycles' (W6-7).

These signs may be used with one of the following supplementary plates where appropriate:

- a) 'SCHOOL' (W8-14)
- b) 'BLIND' (W8-19)
- c) 'PRESCHOOL' (W8-24)
- d) 'DISABLED' (W8-20)
- e) 'CROSSING AHEAD' (W8-22).

#### 5.1.2 Guidelines for installation

Warning signs are installed in accordance with the requirements of Part 10 of the MUTCD.

Tables 5.1.2-A and 5.1.2-B are designed to assist in the selection of appropriate warning signs at schools.

**Table 5.1.2-A – Warning signs for use in advance of crossing facilities**

Crossing facility	Warning sign
Pedestrian crossing (zebra)	'Pedestrian Crossing Ahead' sign (W6-2) with a 'SCHOOL' supplementary plate (W8-14)
Children's crossing	'Children' sign (W6-3) with a 'Crossing Ahead' supplementary plate (W8-22)
Pedestrian actuated signals	'Signals ahead' sign (W3-3) if warranted

Other than in advance of a crossing facility, warning signs should only be used where:

- a) a number of pedestrians cross the road but the numbers are insufficient to justify a specific pedestrian facility, or
- b) there is significant pedestrian use at nights, or
- c) the presence of pedestrians might be unexpected, or
- d) the pedestrian demand extends over a length of road.

**Table 5.1.2-B – Warning signs for different site conditions**

Site conditions	Warning sign
Significant number of pedestrians throughout the day, not only associated with the school	'Pedestrian' sign (W6-1)
At schools without pedestrian crossing facilities	'Children' sign (W6-3) with a 'SCHOOL' supplementary plate (W8-14)

Signs should only be installed where warranted. Improperly used or unnecessary warning signs lose effectiveness and can lead to disregard of signs by motorists. Sign clutter should also be avoided.

## **5.2 Pavement markings**

### **5.2.1 General**

Pavement markings and threshold treatments may be used to highlight road facilities at schools. All pavement markings associated with pedestrian crossing facilities shall be white and be retroreflective.

### **5.2.2 Pavement messages**

Pavement messages may be used in association with school zone signs at sites where driver awareness of the school zone may be reduced by the alignment of the road or by the volume or type of traffic.

The use of pavement messages in advance of pedestrian facilities at schools should be restricted to sites where driver awareness of the facility may be reduced by the horizontal or vertical alignment of the road or by volume of traffic, particularly during the peak periods when children are likely to be present on the road.

Word messages for use on road pavements near crossings at schools are as follows:

- a) 'SCHOOL ZONE'
- b) 'PED X'
- c) 'SCHOOL X'
- d) 'SCHOOL'

'SCHOOL ZONE' is the only pavement message approved for use with a school zone sign. Pavement markings indicating the speed limit or the times of operation of a school zone speed limit are not approved for use in Queensland. The school zone pavement message may be incorporated with a threshold treatment for added emphasis at the discretion of the road authority. Refer to Section 5.4 *Threshold treatments*.

Pavement markings indicating the school zone speed limit or times of operation are not permitted as the school zone speed limit only applies during the school zone times and the pavement marking may confuse motorists.

Table 5.2.2 provides guidance on use of pavement messages at schools.

**Table 5.2.2 – Pavement messages**

<b>Sign</b>	<b>Associated pavement message</b>
School zone sign (R4-Q01 and TC1783)	'SCHOOL ZONE'
Pedestrian crossing ahead sign (W6-2) with or without a 'SCHOOL' supplementary plate (W8-14)	'PED X' with or without 'AHEAD'
Children sign (W6-3) with a 'CROSSING AHEAD' supplementary plate (W8-22)	'SCHOOL X' with or without 'AHEAD'
Children' sign (W6-3) with a 'SCHOOL' supplementary plate (W8-14)	'SCHOOL'

### **5.3 Flashing lights (wig wags) on warning signs**

#### **5.3.1 General**

The MUTCD provides for the use of two alternately flashing lights (wig wags) installed above warning signs when the message being conveyed on the warning sign is one of extreme severity of hazard or there is a lack of adequate stopping sight distance to the hazard.

Flashing lights (wig wags) installed above warning signs should be used at schools, only in accordance with the following guidelines.

The use of smaller in-built flashing lights on enhanced school zone signs is discussed in Section 6.7.2.

#### **5.3.2 Guidelines for installation**

Flashing lights (wig wags) may be used on warning signs at schools only where:

- a) there is a children's or pedestrian crossing, and
- b) where driver sight distance to the crossing is less than the stopping distance, and
- c) enhanced school zone signs (see Section 6.7.2) have not been installed, and
- d) the flashing lights are programmed to flash (wig wag) only during the hours of operation of the School Crossing Supervisor or if crossing supervisor is not present for the times when children are likely to be using the crossing on school days.

The 85<sup>th</sup> percentile speed should be used to calculate the stopping distance. Refer to Section 6.8 of this document for further guidance on improving compliance with school zone speed limits.

### **5.4 Threshold treatments**

#### **5.4.1 General**

Threshold treatments may be provided at entrances to school zones to create a change in driver perception of the speed environment. In the absence of a school zone, threshold treatments may be used to define the school precinct.

#### **5.4.2 Guidelines for installation**

Threshold treatments similar to those used at the perimeter of Local Area Traffic Management (LATM) areas may be used to define the start and end of school precincts; however, threshold treatments for school precincts shall not include any vertical displacement device, unless the school precinct is located within an LATM area.

The purpose of threshold treatments is to inform road users that they are entering a school environment and that they should modify their driving behaviour, and reduce their speed where required.

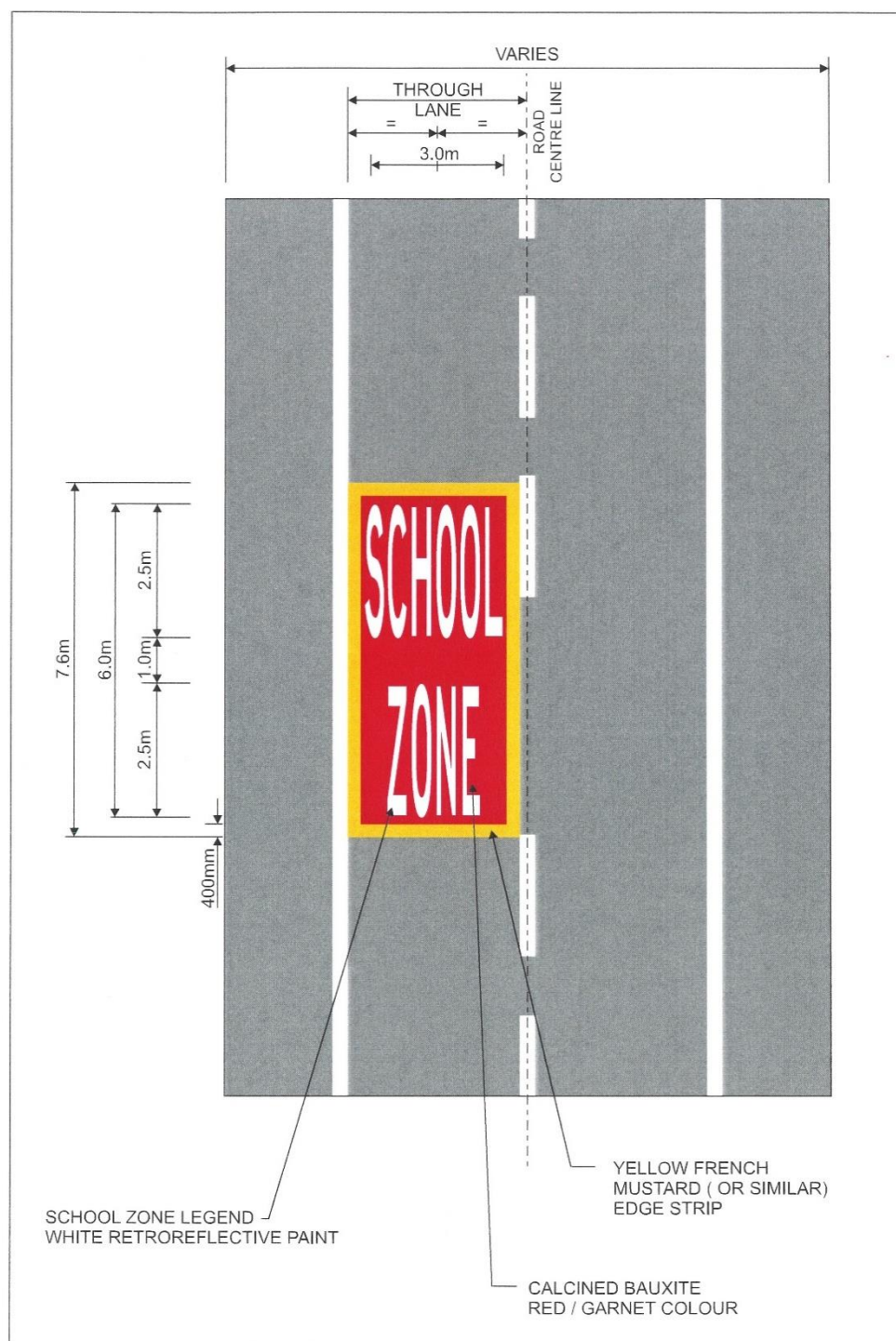
Threshold treatments around schools will provide the greatest benefits at school zones where it is difficult for drivers to identify the need to reduce speed, for example, on wide, open straight roads or where the school is set back from the edge of the road.

Where used at school zones, threshold treatments shall be located adjacent to the school zone signs. Where used at schools without a school zone, threshold treatments shall be located adjacent to the 'Pedestrian Crossing Ahead' (W6-2) or 'Children' (W6-3) warning signs.

Where used at school zones, threshold treatments shall include the words 'SCHOOL ZONE'. Where used at schools without a school zone, threshold treatments shall include the word 'SCHOOL'.

A typical threshold treatment for a school zone is shown on Figure 5.4.2.

**Figure 5.4.2 – Typical threshold treatment for a school zone**



**Note:**

The word 'SCHOOL' is used where a threshold treatment is installed at a school without a school name.



## 5.5 Consistent colour scheme

### 5.5.1 General

Road safety around a school is improved if motorists' awareness of the presence of the school is increased. To draw motorists' attention to the presence of schools, a unique colour scheme, called 'consistent colour', has been developed for use on regulatory and warning signs used at schools.

Consistent colour signs have a fluorescent yellow / green sign face, with a fluorescent orange target board of the same shape as the sign it highlights. The consistent colour scheme is applied to the following signs:

- a) 'Children' (W6-3)
- b) 'Pedestrian Crossing Ahead' (W6-2)
- c) 'Pedestrian Crossing' (R3-1).

These signs are also available in TC series which have fluorescent orange target board. These are TC1193, TC1194 and TC1195, respectively. Supplementary plates used with these signs are fluorescent yellow / green, but without a target board.

The standard school zone sign, R4-Q01 – Section 6.7.1, has a fluorescent orange target board, a fluorescent yellow / green sign face, with the words 'SCHOOL ZONE', the speed restriction and indicating the times of operation of the school zone – all on one sign.

**Figure 5.5.1 – Standard consistent colour children crossing warning sign**



### 5.5.2 Guidelines for installation

Use of the consistent colour scheme is restricted to school areas. Consistent colour should be applied to all relevant signs in a school area when introducing the scheme.

A typical consistent colour scheme application is shown in Figure 5.5.1.

### 5.5.3 Consistent colour scheme for school buses

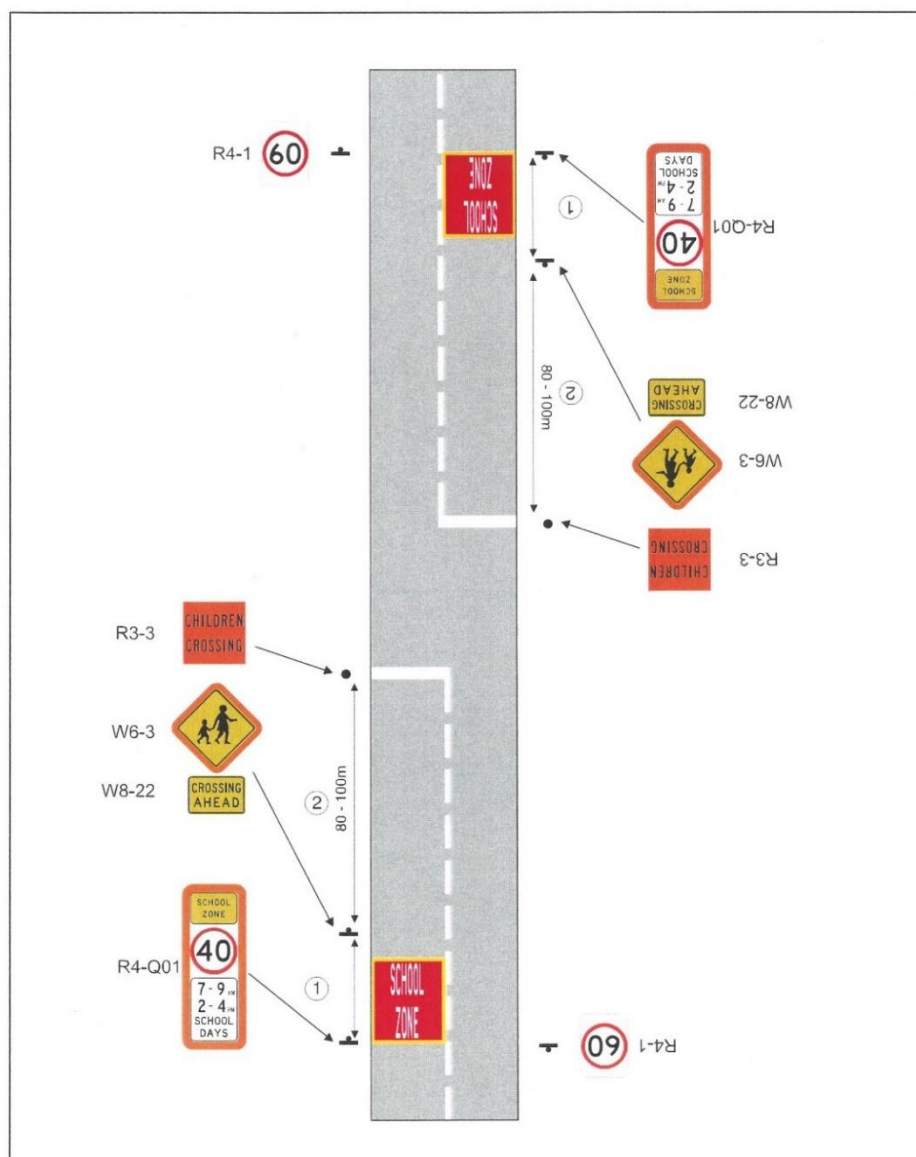
The consistent colour scheme can also be applied to school buses at locations where visibility of the buses is likely to be restricted frequently or for extended periods by fog or rain (see Figure 5.5.3-A).

High visibility strips are attached to the front, back and each side of the bus. The strips consist of alternating bands of fluorescent yellow / green and fluorescent orange, with a black border.

**Figure 5.5.3-A – High visibility strips**



**Figure 5.5.3-B – A typical application of consistent colour treatment within a school zone**



Notes:

- 1 The 'SCHOOL ZONE' sign (R4-Q01) should be located not less than 0.6 V (V = 85<sup>th</sup> percentile speed in km/h) in advance of any advance crossing signs, for example, W6-3 / W8-22.
- 2 The 'Children' (W6-3) / 'CROSSING AHEAD' (W-22) sign assembly should be located 80–100 m in advance of the crossing. This distance may be reduced to 30 m minimum in very low speed environments.

## **6 School zones**

### **6.1 General**

A school zone is a time-based linear speed zone that is installed to regulate vehicle speeds in the vicinity of schools.

While school zones would generally be installed to support facilities such as children's or pedestrian crossings, the absence of such facilities at a school would not preclude installation of a school zone.

The use of additional engineering treatments, such as pavement messages and threshold treatments, while not essential to the installation of a school zone, may improve driver compliance with the reduced speed limit.

In Queensland, school zone signs apply as a linear speed zone and not an AREA speed zone. Where an intersecting road terminates within the school zone, the sign R4-Q04 should be installed opposite a terminating T-intersection within the school zone on a through road. Where there is a cross intersection within the school zone, R4-Q01 repeater signs should be installed within the school zone for the benefit of turning traffic (also see sections 6.7.1 and 7.2 for the provision of repeater signs).

Under the Queensland road rules, a school zone is defined as:

- a) if there is a school zone sign or a speed limit sign with a different number on the sign, on a road – that length of road, or
- b) if there is a school zone sign on a road that ends in a dead end and there is no sign mentioned in Item 6.1a), on the length of road beginning at the sign and ending at the dead-end of that length of road.

In rural areas where there is no school-related activity on the road, a school zone may be installed to increase safety for traffic entering or exiting the school property (refer Table 6.3).

School zones are not permitted at:

- tertiary institutions
- kindergartens
- day care centres.

An exception would be where one of these facilities is next to an eligible school, in which case the school zone may be extended to include the facility. In this case, the times of operation of the school zone shall not be extended beyond the times required for the eligible school.

At the excluded locations, other traffic engineering treatments, such as consistent colour signs, threshold treatments, kerb extensions and pedestrian refuges, are considered more effective in improving safety of school children.

### **6.2 Application of school zones on two-lane roads**

School zones are only permitted on roads adjacent to schools where the school is readily visible to motorists and there is significant school-related activity on or beside the road. School-related activity includes the picking up and dropping off of children on kerbside and vehicles entering or exiting the school property.

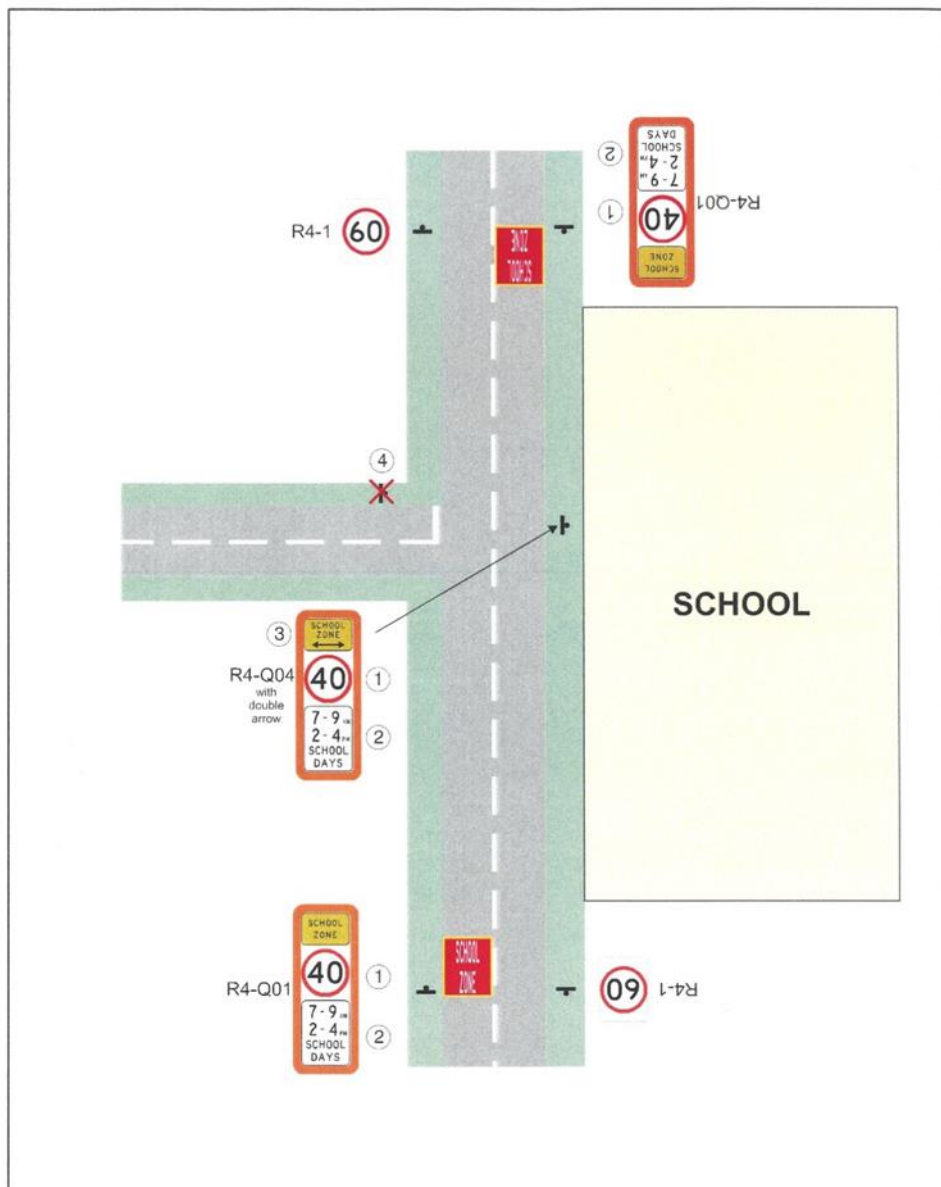
A school zone may be permitted on a road from which the school is not readily visible if:

- a) the school has direct access to the road, and
- b) the access is a main student entry to the school, and
- c) there is significant school related activity on and beside the road.

A typical school zone is shown in Figure 6.2.

If both the main and the side / terminating roads meet these requirements, school zones may be permitted on both roads.

**Figure 6.2 – Typical school zone signing treatment**



Notes:

- 1 For appropriate school zone speed limit, see Section 6.3.
- 2 For times of operation, refer to Section 6.4. The double-ended arrow is added to the 'SCHOOL ZONE' sign (R4-Q04) when used opposite a terminating road. Refer to Figure 6.7.2.
- 3 'SCHOOL ZONE' signs (R4-Q01) are not generally installed on side roads within a school zone.

### 6.3 School zone speed limits

Speed limits of 40 km/h, 60 km/h and 80 km/h apply in school zones on Queensland roads. These speed limits are dependent on the speed limit of the road outside school zone times and the amount of school-related activity for the higher speed zones. Table 6.3 shows the speed limits for use at school zones in Queensland.

**Table 6.3 – School zone speed limits**

Posted speed limit <sup>4</sup> (km/h)	Site conditions	School zone speed limit (km/h)
50 and 60	All	40
70	All	40 (see Notes 1 and 2)
80	All	60 (see Notes 1 and 2)
90 and 100	Where the road authority perceives there is sufficient risk associated with student pedestrian activity on or near the road.	60 (see Notes 2 and 3)
90 and 100	Where the road authority perceives there is insufficient risk associated with pedestrian activity on or near the road, but a lower speed limit is considered necessary due to the presence of school buses or other school associated vehicular activity.	80 (see Notes 2 and 3)
110	All	80 (see Notes 2, 3 and 5)

Notes:

- 1 In 70 km/h or 80 km/h speed zone, the 'SCHOOL ZONE' signs (R4-Q01) must be at least size B.
- 2 In speed zones of 70 km/h and above, the minimum length of a school zone should be 300 m.
- 3 In 90 km/h to 110 km/h speed zones, the following requirements must apply:
  - a 'SCHOOL ZONE AHEAD' sign (R4-Q03) must be installed at least 300 m in advance of the school zone on each approach, and
  - the 'SCHOOL ZONE' signs (R4-Q01) must be size C. In some situations, it may be necessary to install these signs (R4-Q01 and R4-Q03) on both sides of the road.
- 4 This is the posted speed limit that applies outside the school zone hours of operation.
- 5 In 110 km/h speed zones, there should not be any school pedestrian-related activity on the road. Children should be picked up and dropped off in offroad parking facilities.

### 6.4 Times of operation

#### 6.4.1 General

The mandatory times of operation of school zones in Queensland are between 7–9 am and 2–4 pm on school days, unless exemptions are approved by Transport and Main Roads. For exemptions, refer to sections 6.4.2 and 6.4.3 and Appendix B.

Where exemptions are approved by Transport and Main Roads, school zone times shall be extended in multiples of half an hour. School zone start and finish times shall start and finish at the hour or half hour. School zone times must not start or finish at the quarter hour.

Where school zone times at individual schools within a local government jurisdiction are extended beyond the mandatory times (or approved times through exemptions) for that local government,

enhanced school zone speed limit signs (TC1783) shall be installed to flash for the full duration of the school zone.

Where school zone times differ from the mandatory school zone times, the school zone shall commence and finish either on the hour or half hour.

#### **6.4.2 School zone times in south-east Queensland**

This section applies only to the following local governments:

1. Brisbane City Council
2. City of Gold Coast Council
3. Ipswich City Council
4. Logan City Council
5. Moreton Bay Regional Council
6. Noosa Shire Council
7. Redland City Council
8. Scenic Rim Regional Council
9. Sunshine Coast Regional Council

School zones shall operate for a minimum of two hours in the morning and two hours in the afternoon. School zone hours are as follows:

- in the morning, school zones shall not start after 7 am or finish before 9 am
- in the afternoon, school zones shall not start after 2 pm or finish before 4 pm.

There may be instances when individual schools require school zones to operate outside these times. If there is a genuine need to extend a school zone beyond the mandatory times, the school shall make a formal written request to the relevant road authority (local government or Transport and Main Roads) with its requirements. The road authority shall apply to Transport and Main Roads using form F4935 for approval to extend the school zone times for that particular school. This form is available to download from the Transport and Main Roads website.

Each school that requires approval to extend the school zone times shall make a separate request to the relevant road authority. The school zone operation times shall only be increased upon written approval from Transport and Main Roads.

Refer to Appendix C for criteria and process for obtaining approval to extend school zone operating times.

#### **6.4.3 School zone times in regional Queensland**

Where a local government considers the mandatory school zone times are not consistent with the times that school children are likely to be present on the road or travel to school, the local government may, after consultation with all schools within its jurisdiction, apply to Transport and Main Roads for an exemption to change the start or finish times to suit a majority of schools within its jurisdiction using form F4936. The form is available to download from the Transport and Main Roads website.

Any exemption to the school zone times for a local government outside south-east Queensland shall apply to all schools in the local government area, except where extended school zone times has been approved by Transport and Main Roads or where an all-day school zone applies.

The school zone times cannot be reduced; however, if there is a need to extend a school zone time beyond the approved school zone times to suit a school's requirements, the school shall discuss their needs with the relevant road authority. The road authority shall apply to Transport and Main Roads (Safer Roads Unit) for approval to extend the school zone time for that particular school using form F4935.

Each school that requires an extension to the school zone times shall make a separate request to the relevant road authority. The school zone operation times shall only be increased upon written approval by Transport and Main Roads.

Refer to Appendix B for exemption criteria and process for obtaining approval.

#### **6.4.4 All-day school zones**

Extended 'all-day' times of operation for school zones shall be installed at all split-campus schools (refer Section 8). These times may be extended to suit a school's requirement. All-day school zone start and finish times shall align with the start and finish times of other schools within a local government jurisdiction.

Enhanced (flashing light) school zone signs (refer Section 6.7.2) shall be installed at 'all-day' school zones to draw motorists' attention to the reduced speed limit, with the exception that enhanced signs are not required at schools where traffic calming is installed or school zones installed in a cul-de-sac less than 500 m in length.

#### **6.5 Length of a school zone**

The minimum length of a school zone in 50 km/h and 60 km/h speed zones should be 200 m and the school zone should not extend more than 100 m beyond the limits of the school frontage in either direction. In speed zones of 70 km/h and greater, and on multi-lane roads, the minimum length of a school zone should be 300 m. Where a school is located on a short block (less than 200 m), the school zone should encompass the full block.

Where possible, the school zone on the main school frontage should be installed to ensure that the point where most children cross is centred within the school zone.

## **6.6 Indicating times of operation on school zones signs**

To achieve a high level of voluntary compliance by motorists, it is essential that motorists are not confused by the times that school zones operate. Although school zone operating hours have now been standardised in south-east Queensland and within local government jurisdictions in regional Queensland, some school zones will start earlier or finish later than the standard hours. The following signing principles shall be followed in indicating the times of operation on school zone signs:

- a) when the school zone starts or finishes on the hour, only the hour numerals are indicated on the sign – the minute numerals are not shown
- b) when the school zone starts and finishes before 12 noon, 'AM' is indicated on the finish time only
- c) when the school zone starts and finishes after 12 noon, 'PM' is indicated on the finish time only
- d) when the school zone starts before 12 noon and finishes after 12 noon, such as at split-campus schools, 'AM' is indicated with the start time and 'PM' is indicated with the finish time.

## **6.7 Types of school zone signs**

### **6.7.1 Standard school zone sign (R4-Q01 and R4-Q04)**

A standard school zone sign (R4-Q01) designates the start of a school zone. The standard school zone sign will be installed to regulate the speed of traffic during the school zone times. This sign should be sufficient to achieve compliance with the school zone speed limit.

Where a school zone begins at an intersection and the normal speed limit on the road is 60 km/h or higher, a speed restriction sign (R4-1) need not be installed in advance of the school zone sign. At major intersections or where a significant volume of non-local traffic is expected, a speed restriction (R4-1) sign should be installed.

Where the length of a school zone is greater than 200 m, or where there are intersections within the school zone, repeater school zone signs should be installed at appropriate locations through the zone to remind drivers of the school zone speed limit. Where enhanced school zone signs are installed at the start of the school zone, standard school zone signs should be installed as repeater signs. Further guidance on repeater school zone signs for multilane roads is available in Section 7.2.

The end of a school zone is indicated by a speed restriction (R4-1) sign, showing the speed limit applying beyond the zone, unless the road ends at a T-intersection or in a cul-de-sac – in which case, a speed restriction (R4-1) sign is not installed.

For school zones in 90 to 110 km/h zones only, a 'SCHOOL ZONE AHEAD' sign (R4-Q03) shall be installed at least 300 m in advance of the school zone on each approach. In situations where the sign is not clearly visible, these signs (R4-Q01 and R4-Q03) should be installed on both sides of the road.

Where a side road intersects within a school zone, a school zone sign is not installed on the side road on the approach to the school zone (see Note 3 on Figure 6.2). In this instance, the R4-Q04 sign is installed opposite the terminating street for the benefit of vehicles that are turning into the school zone. If infrastructure or private accesses precludes the installation of the R4-Q04 sign, repeater R4-Q01 signs should be installed.

Figure 6.7.2 shows the school zone signs approved for use in Queensland.



### **6.7.2 Enhanced (flashing light) school zone sign at school zones (TC1783)**

An enhanced school zone sign consists of a standard school zone sign incorporating a flashing inner annulus and twin yellow alternate flashing lights mounted above the 'SCHOOL ZONE' plate. These signs are to operate only during the times of operation shown on the sign. Externally-mounted flashing lights are not permitted for use with the school zone sign.

Externally-mounted wig wag signs can only be installed to supplement warning signs in accordance with Section 5.3.

Enhanced school zone signs shall only be installed on roads which satisfy one of the following conditions:

- a) at split-campus schools where school zones operate throughout the day generally between 7 am and 4 pm
- b) at school zones on multi-lane roads
- c) where a risk assessment that encompasses factors such as crash history, car and pedestrian volumes, speed limit, speed compliance and road environment characteristics identifies that the site would potentially benefit from a more conspicuous signage treatment<sup>1</sup>
- d) where the school zone times are extended to operate outside the standard school zone times for a particular local government.

Enhanced school zone signs would generally not be used where:

- a) traffic calming has been installed to create a self-enforcing low speed environment of 40 km/h or less within the school zone, or
- b) the school zone is installed on a cul-de-sac not exceeding 500 m in length and the road services residential properties only.

For more details on school zones at split-campus schools, refer to Section 8. The start and finish times of all-day school zones should be aligned with the morning start time and afternoon finish time of the majority of schools in the local government jurisdiction.

Section 6.7.3 outlines the technical requirements for enhanced school zone signs.

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<sup>1</sup> Transport and Main Roads has developed a risk assessment tool to assess road safety risk at schools. This risk assessment tool is used by the department to prioritise the installation of enhanced school zone signs under the Queensland Government 'School Safety Program'.

**Figure 6.7.2 – School zone signs**

**Standard school zone sign**



*R4-Q01*

This sign is installed at most school on two-lane roads and is also used as a repeater sign in school zones

**School zone sign with double arrow**



*R4-Q04*

This sign is installed opposite terminating roads within school zones

**Enhanced school zone sign**



*TC1783*

This sign is used at:

- split-campus schools
- schools on multi-lane roads
- schools that operate outside the standard school zone times
- at schools assessed as having higher risk

Note:

Signs are continuously being updated. Please refer Transport and Main Roads TC signs (available online) for the latest sign designs.

**School zone ahead sign**



*R4-Q03*

This sign is used on high speed roads – 90 to 110 km/h speed zones in advance of the school zone.

A black annulus is used with this sign.

### 6.7.3 Technical requirements for enhanced school zone signs

Enhanced school zone signs shall comply with all relevant Transport and Main Roads technical requirements, including:

- a) colour and luminance of LEDS
- b) flash rates
- c) accuracy of timing and control devices
- d) electrical standards
- e) maintenance requirements
- f) fault reporting and logging protocol
- g) event logging
- h) requirement for back-up battery
- i) internal clock and calendar requirements
- j) remote fault diagnostic capability.

Enhanced school zone signs may be mains powered, solar powered or battery powered. Mains and solar powered signs shall incorporate a battery back-up, so in the event of a power failure, the school zone speed limit is still displayed during the school zone hours of operation.

The inbuilt flashing lights in the enhanced school zone sign shall be 100 mm diameter for 'A' size signs, 150 mm diameter for 'B' size signs and 200 mm diameter for 'C' size signs.

The technical requirements for enhanced school zone signs can be found in the Transport and Main Roads Technical Standards:

- a) MRTS201 *General Equipment Requirements*
- b) MRTS222 *Electronic School Zone Signs*.

## 6.8 Speeding in school zones

The installation of appropriate signs and infrastructure should ensure that motorists slow to the school zone speed limit.

The change to make school zone times consistent throughout south-east Queensland and across local government areas in regional Queensland is intended to remove any confusion about school zone times to ensure motorists do not encounter different school zone times at different schools.

Where compliance with school zone speed limit is low, the following measures should be considered:

- a) upgrade all signs (regulatory and warning) to consistent colour signs
- b) install additional school zone signs as repeater signs
- c) install threshold treatment with the words 'SCHOOL ZONE'
- d) change the road environment by installing edge lines
- e) on local streets with a centreline, remove the centreline marking
- f) installation of nodal traffic calming devices.

Where these treatments have been implemented and found to be ineffective in improving compliance with the school zone speed limit, the risk assessment tool should be used to determine if enhanced school zone signs should be installed.

## **7 School zones on multi-lane roads**

### **7.1 General**

School zones may be installed on multi-lane roads where:

- a) there is a mid-block crossing facility for the children to cross the road, or
- b) where children are required to cross in large numbers at an intersection.

And:

- a) there is direct access to the school from the multi-lane road, or
- b) there is school-related activity on the road, such as picking up and dropping off school children on the kerbside parking lane (the presence of crossings at existing signals is not a reason for installing a school zone).

Some multi-lane roads adjacent to the school may have kerbside parking facilities where children are picked up and dropped off, even if there is no direct access to the school from that road. In such cases, a school zone may be installed to increase safety for the children and through traffic if children are required to cross the road and a crossing facility is provided.

On multi-lane arterial roads where grade separated facilities have been installed, school zones may be considered to improve safety for children walking and cycling to school or arriving by public transport.

The decision to install a school zone should be made by the road authority in consultation with the school community, road safety advisors from Transport and Main Roads, the school safety committee, other road authorities and stakeholders, including the Queensland Police Service.

### **7.2 Signage requirements for school zones on multi-lane roads**

Enhanced school zone signs (TC1783) shall be installed to indicate the start of a school zone on multi-lane roads (refer to Figure 6.7.2). The signs shall be programmed to flash during the times of operation indicated on the school zone sign and shall be installed as outlined in Table 7.2.

**Table 7.2 – School zone speed limit signs at school zones on multi-lane roads**

	<b>Undivided or divided (median width &lt;1.5 m)</b>	<b>Divided (median width &gt;1.5 m)</b>
Start of school zone – kerb-side	Enhanced	Static / Enhanced*
Start of school zone – median	Not applicable	Static / Enhanced*
Repeater signs within school zone (school zone <than 500 m in length)	Static	Static
Repeater signs within school zone (school zone >than 500 m in length)	Enhanced	Enhanced

Note:

1. In exceptional circumstances, where it is not practical to install 'B' size signs (trees cannot be cleared due to environmental concern, need for existing property demolition or need to maintain safety clearance with power cables), 'A' size sign may be considered.
2. In exceptional circumstances, where it is not practical (for example, due to shade, low clearance with power line) to install a flashing school zone sign at the beginning of a school zone, a static sign shall be installed and a flashing school zone sign shall be installed as close as practicable to the start of the school zone.
3. 'B' size school zone shall be installed at school zones on multi-lane roads.

\* Only one Enhanced Flashing School Zone Sign (TC1783) is necessary.

### **7.3 Length of school zone on multi-lane roads**

Refer to Section 6.5 for length of school zones.

### **7.4 Times of operation of school zones on multi-lane roads**

School zones on multi-lane roads shall operate the same hours as school zones on two-lane roads within each local government jurisdiction. Refer to Section 6.4 for times of operation of school zones in Queensland.

### **7.5 Pedestrian facilities for school zones on multi-lane roads**

Table 2.1 in Section 2.1 provides guidance in determining appropriate pedestrian crossing facilities. *Traffic and Road use Management* manual Volume 1 Part 6 Section 8.1-1 also provides guidance in selecting an appropriate crossing facility on a multi-lane road.

### **7.6 Threshold treatment**

Where the enhanced flashing school zone signs alone are not effective in reducing vehicle speeds within the school zone threshold treatment, in accordance with Section 5.4, a threshold treatment should be installed at the start of the school zone on the lanes of traffic entering the school zone.

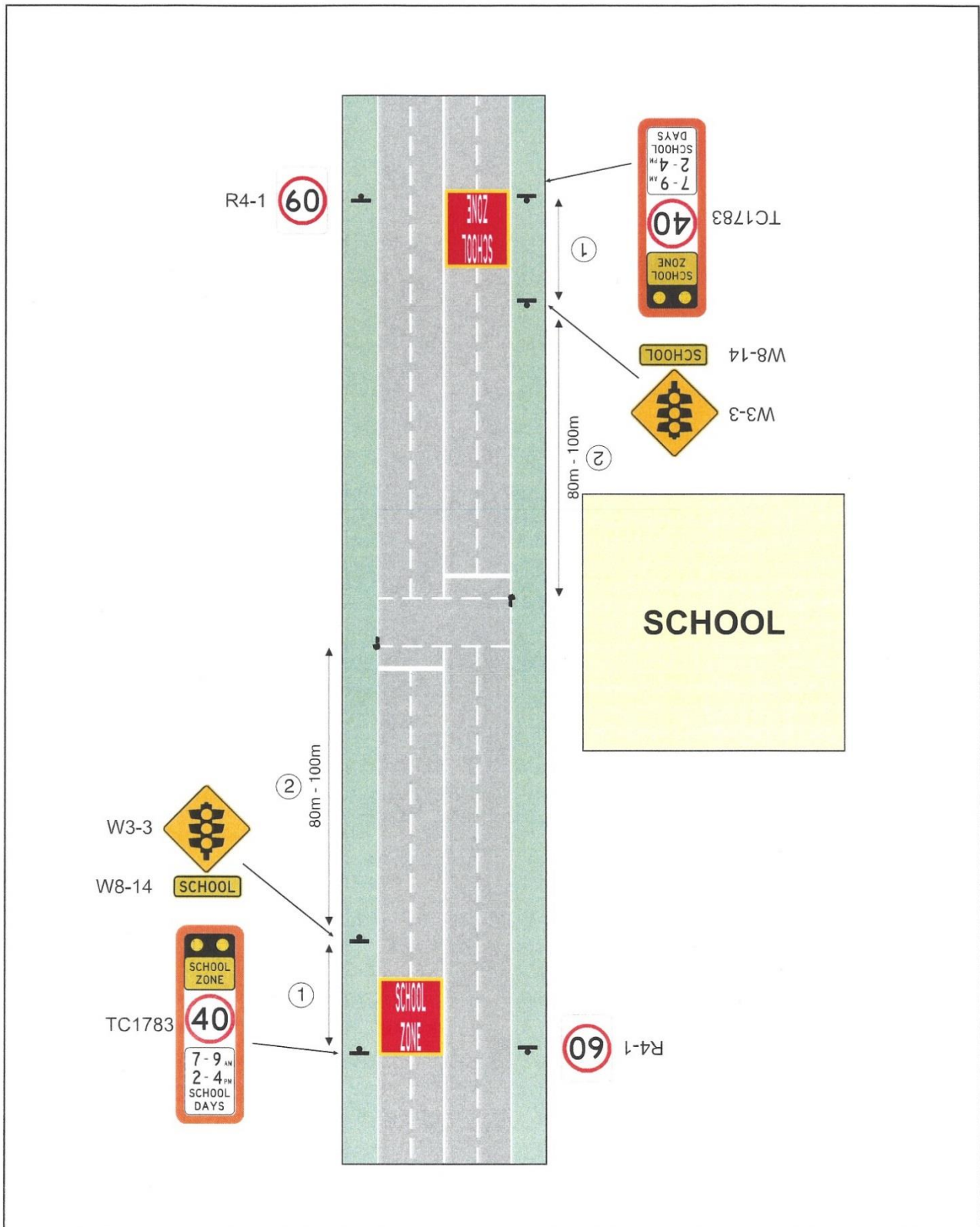
### **7.7 Duplication of school zone signs on undivided multi-lane roads**

Where the installation of an enhanced school zone sign on undivided multi-lane roads at the start of the school zone is not effective in achieving compliance, other measures, such as threshold treatment or duplication of the school zone (R4-Q01) on the right hand side of the road, should be considered.

### **7.8 Installation of repeater school zone signs on multi-lane roads**

Where a school zone has intersections within the school zone or the environment does not give sufficient cues to the driver that they have already entered a school zone, considerations should be given to installing repeater signs to reduce speeding road users.

**Figure 7.8 – Typical school zone signing treatment for school zones on multi-lane roads**



Notes:

1. The 'SCHOOL ZONE' sign, TC1783, should be located not less than 0.6 V (V = 85<sup>th</sup> percentile speed in km/h) in advance of any advance crossing signs, for example, W3-3 / W8-22.
2. The (W3-3) / (W8-14) sign assembly should be located 80–100 m in advance of the crossing.

## **8 Split-campus schools**

### **8.1 General**

A split-campus school has facilities<sup>2</sup> that are separated by a road that school children are required to cross throughout the day.

Provided children are required to cross the road at intervals throughout the school day, two or more schools that share facilities which require school children to cross a road throughout the day may also be treated as split-campus schools.

Where split-campus exist, the road safety risk to the school children is increased. To minimise risk, supplementary engineering treatments, such as the installation of traffic calming and permanent 40 km/h speed limit, should be considered.

### **8.2 Minimum infrastructure requirements**

It is essential that motorists are aware of the presence of a school and expect children will be crossing the road. The installation of adequate infrastructure is necessary to ensure the safety of these school children. The following minimum infrastructure shall be provided at split-campus schools:

- a) school zone (unless a permanent speed limit of 40 km/h applies)
- b) pedestrian crossing facility, and
- c) warning signs.

### **8.3 School zones at split-campus schools**

It may not be necessary to install a school zone at a split-campus school where a grade separated pedestrian facility is provided. It is desirable that all school-related activity is confined to other lower order roads and a school zone may be installed on those roads if required. If a school zone is installed, the times of operation must be consistent with school zone times at other schools within the local government jurisdiction.

At split-campus schools where a grade separated pedestrian facility is not installed, school zones shall be installed and operational throughout the day, generally between the hours of 7 am and 4 pm. Times may be amended to cater for local and regional requirements by the relevant road authority in consultation with Transport and Main Roads regional officers, the Department of Education, Training and Employment, the school community, Queensland Police Service and other members of a school's safe school travel committee.

Where traffic calming has been installed and vehicle speeds can be regulated to 40 km/h, a school zone is not required at a split-campus school. This practice may be preferred where the community accepts traffic calming (such as local streets or low volume traffic carrying roads with speed limit of 60 km/h) as there will not be a need to install enhanced school zone signs.

### **8.4 School zone signs at split-campus schools**

Enhanced school zone signs (TC1783) shall be installed at split-campus schools.

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<sup>2</sup> These include, but are not limited to, buildings, sports grounds, swimming pools or other facilities that are used as part of the school curriculum. Children should frequently cross the road that divides the facilities throughout the day and throughout the school year, on each school day.



Enhanced school zone signs would not be used where:

- a) traffic calming has been installed to create a self-enforcing low speed environment of 40 km/h or less within the school zone, or
- b) the school zone is installed on a cul-de-sac not exceeding 500 m in length and the road services residential properties only.

## **8.5 Pedestrian facilities at split-campus schools**

### **8.5.1 General**

A significant risk to children travelling to and from school is the conflict between pedestrian and vehicular traffic. This risk can be minimised by separating pedestrians from vehicles through grade separation.

A grade separated facility may not always be the most suitable option as pedestrians may not use it if it is installed on roads with relatively low perceived risk.

The risk to children crossing the road at a split-campus school can also be minimised by implementing traffic engineering measures, including the installation of appropriate pedestrian crossing facilities and traffic calming.

### **8.5.2 Selection of pedestrian facilities**

A number of factors need to be considered when determining the most appropriate type of pedestrian facility. These include:

- a) the function of the road, including traffic characteristics (volumes, type of traffic, number of lanes)
- b) pedestrian characteristics (volume, age of pedestrians, crossing frequency)
- c) speed limit on the approach to the facility
- d) sight distance and stopping distance
- e) roadside activity
- f) safety of other road users
- g) road environment, including the presence of traffic calming devices
- h) construction and maintenance costs of the facility, and
- i) whether the facility will be used by the intended road users.

Table 2.1 in Section 2.1 provides guidance in determining appropriate pedestrian crossing facilities. The department's *Traffic and Road Use Management (TRUM) manual Volume 1 Guide to Traffic Management Part 6 Intersections, Interchanges and Crossings Section 8.1-1 Pedestrian crossing facility selection* also provides guidance in selecting appropriate crossing facilities.

Where a grade separated facility is installed, supplementary treatments may be necessary to ensure that intended users do not cross the road at-grade level.

## **8.6 Treatments for four-lane or wider roads**

### **8.6.1 General**

Four-lane roads usually carry around 10,000 vehicles per day or higher. The level of risk to school children is dependent on the signage, control and infrastructure measures in place and generally increases with traffic volume.

In the 10,000 to 20,000 vehicles per day range, there is an increased risk to children crossing the road. Enhanced at-grade facilities are generally likely to provide appropriate measures to manage this risk and should be considered.

Where there are concerns regarding performance of crossings, the following treatments can be considered.

### **8.6.2 Lane ‘throttling’**

On arterial roads with four through traffic lanes, where the traffic volumes are in the range of 10,000 to 15,000 vehicles per day, consideration should be given to throttling from four to two lanes. Lane throttling involves reducing the number of through traffic lanes (for example from four to two) where the lanes are not required for traffic capacity reasons. Lane throttling provides a number of benefits, including:

- a) reduced crossing distance, with a resultant reduction in risk due to shorter exposure times
- b) reduced red time at the pedestrian crossing
- c) better speed compliance due to the changed road environment.

When throttling lanes, the minimum length requirement for merge lanes and tapers should be provided.

### **8.6.3 Grade separation**

At split-campus schools on arterial roads with four through traffic lanes where traffic volumes are above 15,000 vehicles per day and other lower cost treatments are not expected to provide appropriate performance, consideration should be given to providing a grade separated pedestrian facility.

At split-campus schools on arterial roads with six or more through lanes, pedestrian crossings shall be grade separated.

Where a grade separated facility has been provided across an arterial road, there should not be any direct access to the school from that road. Access for students to enter the school premises should be provided from other lower order roads.

If this is not practical, then direct access to the school should be closed off during school hours, except in the morning and afternoon when children arrive to school and leave school.

## **8.7 Installation of pedestrian facilities**

Section 2 provides further guidelines for the installation of various types of pedestrian facilities.

## **8.8 Warning signs**

Advance warning signs should be installed to warn motorists of the presence of the school and pedestrian crossing facility.

The following warning signs may be used to warn motorists of the likely presence of school, children on or crossing the road:

- a) 'Children' (W6-3)
- b) 'Pedestrians' (W6-1)
- c) 'Bicycles' (W6-7).

Appropriate supplementary plates may be installed to these warning signs. All warning signs shall be consistent colour signs.

Where the installation of a warning sign does not have the desired effect on driver behaviour, the installation of flashing wig wag lights above the warning sign may be considered (see Section 5.3).

### **8.9 Threshold treatments**

Threshold treatments may be installed at all split-campus schools to increase driver awareness of the start of the school zone. Where a school zone is installed, threshold treatments shall be installed adjacent to the school zone sign and incorporate the words 'SCHOOL ZONE' in white lettering on a red background with a yellow border.

### **8.10 Crossing supervision**

A split-campus that does not meet the risk assessment criteria for a supervised crossing under the School Crossing Supervisor Scheme could consider alternative options to supervise children crossing roads. Options include Traffic Monitors, school-paid School Crossing Supervisors and volunteer School Crossing Supervisors. Options should be discussed with Transport and Main Roads Regional Road Safety Advisors and representatives from the relevant road authority and local government.

### **8.11 Split-campus schools created after 30 September 2011**

Transport and Main Roads does not encourage the construction of school facilities that create a split-campus school as the frequent crossing of the road between campuses increases the risk to the children attending that school.

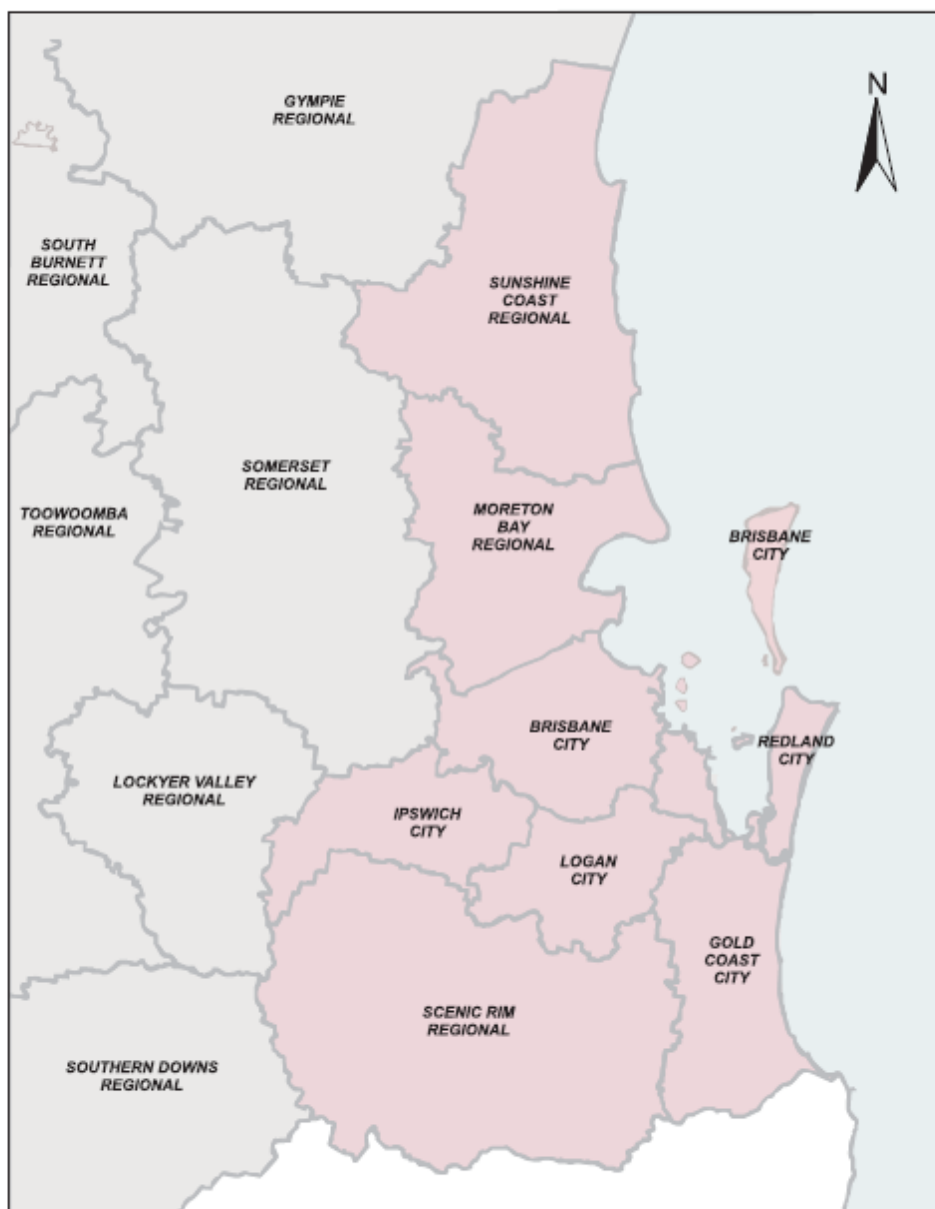
The road authority assessing any development application that creates a split-campus school should condition developers to provide appropriate pedestrian crossing facilities. Further information on planning for schools can be found in the document *Planning for Safe School Transport Infrastructure at Schools*. The document can be found on the Transport and Main Roads website.

## Glossary

<b>All-day school zone</b>	A school zone at a split-campus school that operates all day generally between 7 am and 4 pm. The start and finish times can be changed to suit a school's individual requirement. Enhanced school zone signs are installed to designate all-day school zones.
<b>Children's crossing</b>	A roadway crossing intended for part-time use, mainly by school children, indicated by the use of 'CHILDREN CROSSING' flags, red and white posts, and stop lines on the road.
<b>Collector road</b>	A road whose main function is the distribution of traffic between sub-arterial roads and local streets within suburbs, and which can also provide access to adjacent property.
<b>Combined children's and pedestrian crossing at schools</b>	A pedestrian crossing (zebra) where a children's crossing is also installed with red and white posts, and flags are displayed at times when school children cross the roadway.
<b>Enhanced school zone sign</b>	A school zone sign that incorporates a flashing annulus and twin flashing lights that flash during the operation of the school zone. These signs are intended to draw motorists' attention to the operation of the school zone.
<b>Footpath</b>	Along a roadway, the strip of land between the property boundary and the kerb of the roadway. There may be a concrete, paved or sealed path within the footpath.
<b>Kerb or kerbing</b>	A raised border of rigid material along the edge of a roadway. Used to separate the roadway from an adjacent footpath or median.
<b>Kerb extension</b>	A local widening of the footpath, which reduces the width of roadway to be crossed by pedestrians.
<b>Local street</b>	The main function of a local street is to provide access to an adjacent property.
<b>MUTCD</b>	<i>Manual of Uniform Traffic Control Devices.</i>
<b>Median or median strip</b>	A strip of road, not normally intended for use by traffic, which separates roadways carrying traffic in opposite directions. A median can be bounded by kerbing.
<b>Multi-lane road</b>	A one-way road, or a two-way road, with two or more marked lanes (except bicycle lanes) that are: a) on the side of the dividing line or median strip where the driver is driving, and b) for the use of vehicles travelling in the same direction.
<b>Pavement marking</b>	See <i>Threshold treatment</i> .
<b>Pedestrian</b>	Includes any walking, running standing, sitting or being otherwise in or upon a road.  Note: Persons in a toy vehicle or in a pram or an invalid in a wheel chair not capable of exceeding 10 km/h are also treated as pedestrians.
<b>Pedestrian actuated traffic signals (mid-block)</b>	A signal installation, other than at an intersection, at which changes of aspect are initiated by a pedestrian, usually by pressing a button.
<b>Pedestrian crossing (zebra) or zebra crossing</b>	A roadway crossing indicated by a series of white stripes parallel to the centre of the roadway and by the display of Pedestrian Crossing (R3-1) signs.

<b>Pedestrian interval</b>	A time interval during which pedestrians are given the opportunity to cross the road at a traffic signal or an intersection signal.
<b>Pedestrian refuge</b>	An island installed in the roadway to allow pedestrians to cross the roadway in two stages.
<b>Pick-up / set-down facilities</b>	Short-term parking areas designed for safely picking up and dropping off children.
<b>Arterial road or primary arterial road</b>	A road whose main function is to carry traffic across metropolitan areas or from one region to another.
<b>Roadway</b>	That part of a road or street normally used for vehicular traffic, including bicycles.
<b>School Crossing Supervisor</b>	An authorised person, appropriately trained, who controls vehicle and pedestrian movements at children's crossings or at other crossings where children cross roads.
<b>School days</b>	Term dates as published by Education Queensland minus public holidays as this is when the school children are present. Days of operation for school zones at private schools can be adjusted as they may start late or finish terms early or late.
<b>School zone</b>	A section of roadway, adjacent to, or in the vicinity of, a school, along which a reduced speed limit applies during specified times on school days.
<b>Secondary arterial or sub-arterial road</b>	A road whose main function is to carry traffic between suburbs and between arterial roads.
<b>Sight distance</b>	The distance at which a driver / pedestrian / cyclist has an unobstructed view of other road users, road side hazards and traffic control devices.
<b>Speed zone or linear speed zone</b>	A length of roadway on which the speed limit is defined by speed limit signs.
<b>Split-campus school</b>	A split-campus school has facilities that are separated by a road and children are required to cross that road throughout the day to access the facilities.
<b>Stop line</b>	A transverse line marked on a roadway at a traffic control device at which vehicles are required to stop in accordance with relevant regulations.
<b>Stopping distance</b>	The distance travelled by a vehicle between the time when the driver receives a stimulus signifying a need to stop and the time when the vehicle comes to rest.
<b>Subway</b>	With regard to pedestrians and cyclists, a structure, or tunnel, taking a footpath or cycle path under a road or railway.
<b>Threshold treatment</b>	At a school, a broad coloured band across the traffic lane in the direction of travel on which the words 'SCHOOL ZONE' or 'SCHOOL' are painted.
<b>Traffic control device</b>	Any sign, signal, pavement marking or other installation installed for the purpose regulating, warning or guiding road users.
<b>Visibility</b>	See <i>Sight distance</i> .
<b>Wheeled recreational devices (WRD)</b>	Includes rollerblades, roller skates, scooters and skateboards.
<b>Wheeled toy</b>	Includes a child's pedal car, scooter, tricycle or similar toy used by a child under 12 years-old.

## Appendix A: Local government in south-east Queensland where school zones operate between 7–9 am and 2–4 pm



Councils where mandatory 7–9 am and 2–4 pm school zone times apply: Brisbane City Council, Gold Coast City Council, Ipswich City Council, Logan City Council, Moreton Bay Regional Council, Noosa Shire Council, Redland City Council, Scenic Rim City Council, Sunshine Coast Regional Council.

## **Appendix B: Exemption criteria for school zone operating hours for regional Queensland**

It is mandatory for local governments to implement uniform school zones times that apply to all schools within their jurisdiction. This change in policy is to increase compliance with the school zone speed limits and improve safety for school children in the vicinity of schools.

Other local governments not listed in Section 6.4.2 may either adopt the mandatory times of 7–9 am and 2–4 pm or seek approval from Transport and Main Roads for an exemption to apply to school zone times to all schools through their local government area. Applications must be made using the form F4936, which is available on the department's website.

Local governments must consult with schools and Transport and Main Roads regions (for schools on state-controlled roads) before seeking exemption to the school zone times.

School zone times at any school within a jurisdiction must not be less than the standard school zone times approved for that jurisdiction; for example, if a local government has adopted the school zone times as 7.30–9 am and 2.30–4 pm, then no other school within that jurisdiction can have a school zone time that is less than these times. That is, a school in that jurisdiction cannot have school zone times as 8–9 am and 2.30–4 pm.

Applications for exemptions must be submitted to the Director (Safer Roads) at the address listed in Section C3.

## **Appendix C: Criteria to extend school zone operating times**

### **C1 Criteria to extend school zone times at individual schools (applies to all local governments)**

Some schools may require extended school zone times to cater for different start or finish times to other schools. Section C2 provides exemption criteria for extended hours for individual schools. Section C3 provides the procedure that road authorities shall follow to seek approval for extending the school zone operating times within their jurisdiction.

### **C2 Criteria to extend school zone times at individual schools (applies to schools in all local government areas)**

School zone times may be extended beyond the mandatory times for local governments listed in Section 6.4.2 or beyond the standard school zone times for other local governments if the following conditions are met on any school day:

- a) school commences before or after the standard school zone time for that local government area in the morning
- b) school finishes before or after the standard school zone time for that local government in the afternoon
- c) school provides either before or after care and children arrive or depart outside the standard school zone times.

### **C3 Procedure for seeking approval to extend school zone times at individual schools**

The following procedure will apply to road authorities seeking approval to extend the school zone operating times at individual schools:

- a) the school Principal or delegate should contact the road authority (council or Transport and Main Roads Regional office) and provide justification for seeking the extension
- b) the road authority will make a decision to either support or reject the request
- c) if the road authority supports the request of the school, it will complete the prescribed form F4935 and submit to:

**The Director (Safer Roads)**

Department of Transport and Main Roads  
PO Box 2595  
Brisbane QLD 4001

Or email the form to [tmr\\_speed@tmr.qld.gov.au](mailto:tmr_speed@tmr.qld.gov.au)

- all prescribed forms must be duly completed and signed as required
- the Director (Safer Roads), or his or her delegate, will assess the request for an extension to the school zone operating time and advise the road authority in writing of his or her decision
- sites with approved extended school zone operating times will be reviewed on an annual basis. The review will follow the same procedure, including submission of the updated F4935 to the Director (Safer Roads) not more than 12 months later than the previous decision.



#### **C4 Signage requirements for schools with extended school zone times**

At schools where extended school zone times apply, enhanced (flashing light) school zone signs (TC1783) must be installed to flash for the full duration of the school zone time that is extended. Where a school zone operates extended time in the morning, but operates the same time as other schools in that jurisdiction in the afternoon, the school zone sign should flash only during the morning school zone time.

## Appendix D: Form F1840 School Crossing Supervisor Scheme Risk Assessment Report

[Print form](#)
[Clear form](#)

### School Crossing Supervisor Scheme Risk Assessment Report



DMS filing reference

#### Part 1

##### 1. Name of school

Address

Postcode

##### 2. Where is the location of the existing or proposed crossing?

##### 3. Do students from other schools use this crossing?

No ☐Yes ☐ Which school/s?

##### 4. What type of crossing is it?

Pedestrian ☐Childrens ☐Dual ☐Other ☐ Please specify

##### 5. Is the crossing in a school zone?

No ☐Yes ☐

##### 6. Is the school boundary less than 200 metres to the crossing point?

Yes ☐No ☐ What is the distance?
 metres

##### 7. How many traffic lanes are marked on the road where the crossing is situated?

Two lane ☐Other ☐ Please specifyFour lane ☐


##### 8. Are there any other features located on the roadway? (e.g. median strips, slip lanes)

No ☐Yes ☐ Please give details

##### 9. Risk Assessment Factor

Level of risk

Low ☐Medium ☐High ☐

##### 10. Is it recommended that a level of supervision—

	Yes	No	
be established	<input type="checkbox"/>	<input type="checkbox"/>	
be continued	<input type="checkbox"/>	<input type="checkbox"/>	
be reduced	<input type="checkbox"/>	<input type="checkbox"/>	How much?
be increased	<input type="checkbox"/>	<input type="checkbox"/>	How much?
change operating times	<input type="checkbox"/>	<input type="checkbox"/>	Recommended times
be withdrawn	<input type="checkbox"/>	<input type="checkbox"/>	

Inspecting officer's name (please PRINT)

Inspecting officer's signature

Date

##### Endorsement by Manager (Road Safety)

Recommendation

Accepted ☐Rejected ☐

Manager (Road Safety) name (please PRINT)

Manager (Road Safety) signature

Date

##### Permission to begin public consultation process

Yes ☐No ☐

Regional Director's name (please PRINT)

Regional Director's signature

Date

School Crossing Supervisor Scheme Risk Assessment Report continued ... (page 2 of 4)

Table 1. Pedestrian and traffic flow count

Day		Date / /	
AM Time	Number of children	Number of vehicles	Number of heavy vehicles
<b>Total risk factor</b>	0 (PC)	Number of vehicles: 0	Number of heavy vehicles: 0
		V = Number of vehicles + (Number of heavy vehicles X 2) 0 (V)	
Day		Date / /	
PM Time	Number of children	Number of vehicles	Number of heavy vehicles
<b>Total risk factor</b>	0 (PC)	Number of vehicles: 0	Number of heavy vehicles: 0
		V = Number of vehicles + (Number of heavy vehicles X 2) 0 (V)	

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*School Crossing Supervisor Scheme Risk Assessment Report continued ... (page 3 of 4)*

Table 2. Risk assessment factors

2A - Speed		2B - Visibility			2C - Intersection		2D - Gradient	
Speed limit	Risk factor	Posted speed limit	Visibility distance (metres)	Risk factor	Proximity of crossing to intersection	Risk factor	Gradient for down hill	Risk factor
0 - 40	1.0	40	<35	see note*	>50 metres	1.0	0% Level	1.0
			35 - 45	1.1				
			>45	1.0				
41 - 60	1.1	50	<45	see note*	30 - 50 metres	1.1	5% 1 in 20	1.1
			45 - 65	1.1				
			>65	1.0				
61 - 80	1.3	60	<65	see note*	<30 metres	1.2	10% 1 in 10	1.2
			65 - 85	1.1				
			>85	1.0				
81 - 100	1.5	70	<85	see note*			15% 1 in 6.67	1.3
			85 - 105	1.1				
			>105	1.0				
Total risk factor	(AS)	Total risk factor	(C)	Total risk factor	(I)	Total risk factor	(G)	

**Note\*:** The visibility is less than required for a safe stopping distance. This WTRFS issue requires either the crossing be relocated or measures taken to increase visibility.

Table 3. Hazard descriptions

[illegible]

## School Crossing Supervisor Scheme Risk Assessment Report continued... (page 4 of 4)

## Part 2 - Instructions

## How to complete Risk Assessment Report

## Step 1 (Table 1) - Pedestrian and Traffic Flow Count

- Conduct one count in the morning and one count in the afternoon.
- Write times in 5, 10 or 15 minute blocks in column 1 of table (e.g. 8:05-8:10).
- For existing crossings: Counts must be completed during the whole period the crossing is operating (e.g. 45 minutes or 1 hour in the morning and 30mins in the afternoon). **Note: Heavy Vehicles have the value of two vehicles.**
- For proposed crossings: Two series of counts should be conducted (i.e. two mornings and two afternoons). Mornings for 1 hour, finishing when school commences (e.g. 8am - 9am). Afternoon counts should be conducted for a minimum of 30mins, commencing at the end of the school day.
- When a second count is required, it should be conducted within two weeks and on a different day from when the first count was taken.
- Count all children under the age of 13 including prep children regardless of whether they are accompanied by a person over the age of 13 who cross the road within 50 metres of a crossing or a desirable crossing point.
- If possible avoid rainy days and special activity days such as sports meetings.

## Step 2 – (Table 2A, 2B, 2C, 2D) – Risk Assessment Factors

2A - Speed		2B - Visibility		2C - Intersection		2D - Gradient		
Speed limit	Risk factor	Posted speed limit	Visibility distance (m)	Risk factor	Proximity of crossing to intersection	Risk factor	Down hill for down hill	Risk factor
0 - 40	1.0	0.0	<100	Flow rated	<100 m	1.0	0 % 1.0m	1.0
			100 - 140	1.1				
			>140	1.2				
41 - 60	1.1	0.0	<100	Flow rated	100 - 140 m	1.1	0 % 1.0 - 200	1.1
			100 - 140	1.1				
			>140	1.2				
61 - 80	1.2	0.0	<100	Flow rated	>140 m	1.2	1.0% 1.0 - 100	1.2
			100 - 140	1.1				
			>140	1.2				
81 - 100	1.3	7.0	<100	Flow rated			2.0% 1.0 - 4.87	1.3
			100 - 140	1.1				
			>140	1.2				

- A risk assessment factor is used to determine the level of risk for a crossing point.
- All crossings are banded into three groups depending on the outcome of the Risk Assessment Factor formula

$$\frac{PC \times V \times AS \times C \times I \times G}{100} = \text{Risk (e.g. Low: 0 to 24.9, Medium: 24.91 to 399.9, High: over 399.91)}$$

**Note:** It is important for all the total risk factor boxes to be completed to achieve this calculation.

## Table 2A – Speed

- If the crossing is located within a school zone use the school zone speed limit. If there is no school zone use the posted speed limit of the road 140 metres in advance of the crossing.

## Table 2B – Visibility

- This is the distance at which a driver/ pedestrian/ cyclist has an unobstructed view of other road users, road side hazards or traffic control devices. This distance is measured at height of 1.15m off the ground (bend your knees to get this approximate height) and taken from the crossing supervisor's recommended waiting position. Draw a straight line to the recorded obstruction (i.e. crest, dip, curve etc.), to where you can't see an approaching vehicle.
- If the visibility distance is less than the required total stopping distance of a car travelling at the speed limit, the crossing must be relocated or measures taken to increase the visibility distance.

## Table 2C – Intersections

- The distance from where the crossing supervisor usually stands in the waiting position on the footpath at a crossing to the nearest kerb of the side road/ intersection.

## Table 2D – Gradient

- Measure the gradient, only on the downhill approach side to the crossing. Gradient is calculated as the ratio between 1m of height and a horizontal distance. A gradient of 1 in 20 means that the road has a 1 metre drop in every 20 metres.
- Contact your local council traffic engineer for a more accurate gradient if necessary.

## Step 3 (Table 3) – Hazard description

- Describe any hazards not contained in table 2 such as parking congestion, high vehicles, stationary buses, glare (direct/reflected) or shade cast onto road or crossing area from trees.

## Step 4 – What to do with this form

- Ensure all total risk factor boxes on table 1 and table 2 have been completed as well as the inspecting officer has printed their name and dated the form. Incomplete forms will be returned.
- Enter the information from this form on the School Crossing Scheme database within 7 working days and forward a copy of the completed form to the Manager (Road Safety) for the appropriate region, either by fax or email within 7 working days.

