

Supplement to AS 1742.10

Manual of uniform traffic control devices

Part 10: Pedestrian control and protection

July 2025



Government of South Australia
Department for Infrastructure
and Transport

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| 1 | 14 August 2023 | Original issue New supplement compiled from Operational Instructions 10.4 and 10.6, and Code of Technical Requirements, Section 8. Additional guidance on pedestrian related signs; revised guidance on zebra crossing dimensions; off-street wombat crossings added |
| 2 | 24 April 2024 | Format update, changes in red. References to Austroads guides added; reference to DIT Sign Index updated including signs in AS 1742.10 not to be used in SA, reference to R4-SA60 and R4-SA61 signs at end of school zones; crosswalk width and pole separation details at PACs, guidance for use of W8-SA114 sign at koala crossings, departure from model instructions for crossings added; reference to continuous footpaths updated |
| 3 | 17 June 2025 | Updated for 2024 version of AS 1742.10; zebra and wombat crossing dimensions amended; Appendix B criteria for use different crossing types updated to include consideration of various methods of assessing pedestrian demand, site factors, impact on traffic, consistency of treatments, impact of micromobility users and approach speeds; koala crossing requirements included in Appendix C as this crossing type is no longer included in AS 1742.10; guidance on the use and signage of raised platforms at pedestrian crossing facilities added |
| 3.1 | 20 June 2025 | Use of Remember Give Way to Pedestrians and Cyclists When Turning (G9-SA110) sign in Clause 4.5(a) amended to be complement the R2-SA102 sign. |
| 3.2 | 25 July 2025 | Clause 5.4 - use of R4-1 on exit from wombat crossing clarified; Appendix C2(h) - use of R4-1 on exit from koala crossing clarified; Appendix G - Pedestrian fencing removed; for fencing on DIT roads to refer to DIT Master Specification and standard drawings; |

Approvals record

| Approver | Position | Date | Signature |
|-----------------|---------------------------|--------------|------------------------|
| Stephen Pascale | Manager, Traffic Services | 24 July 2025 | Digital Approval 51076 |

We acknowledge the Traditional Custodians of the Country throughout South Australia and recognise their continuing connection to land and waters. We pay our respects to the diversity of cultures, significance of contributions and to Elders past, present and emerging.



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Part 1. Introduction

All road authorities across Australia are working towards harmonisation between States and Territories in how road networks are managed. In order to achieve this, the Austroads *Guide to Traffic Management* and Australian Standards relating to traffic management have been adopted to assist in providing that level of consistency and harmonisation across all jurisdictions. This means that these Austroads Guides and the Australian Standards are the primary technical references.

Jurisdictional supplements identify where practices differ from the guidance in the national standards and/or provide additional information where required.

Australian Standards are available for purchase from Standards Australia. Austroads Guides are freely available via the [Austroads](#) website. Non-commercial users can access the Australian Standards for free, up to three times each year, via Standards Australia's [Reader Room service](#). The platform is not intended for regular users who need access to Standards as part of their work, but to support the Australian community seeking occasional access for private use.

1.1 South Australia's supplements

The Department for Infrastructure and Transport (the Department) is developing a series of supplements to the parts of *Australian Standard AS 1742 Manual of Uniform Traffic Control Devices*. As these supplements are published for use, the Department's *Code of Technical Requirements, Standards and Guidelines* web page, *Operational Instructions* and other publications will be updated as necessary to reference the new supplement and remove duplicated content. Users are reminded to always access the live versions of these documents via the Department's *Technical Documents - Standards and Guidelines* web page (https://www.dit.sa.gov.au/standards/standards_and_guidelines) to ensure they are accessing the latest information, and are encouraged to subscribe to the web page to be notified of changes periodically.

The Department's *Code of Technical Requirements* sets out the mandatory requirements for variations from the Australian Standards and Austroads Guides for the use of traffic control devices in South Australia. The Code references various Departmental documents including this Supplement and requires road authorities to comply with the variations and additional information to the Australian Standards and Austroads Guides contained in this Supplement.

Australian Standards *AS 1742.10 Manual of uniform traffic control devices - Part 10: Pedestrian control and protection* is a nationally agreed standards document outlining the use of traffic control devices related to railway crossings on the road network and has been adopted by all jurisdictions.

This document is South Australia's supplement to *AS 1742.10 (2024)* and has been prepared and authorised by the Department.

1.2 Approval for the use of traffic control devices

When used in accordance with *AS 1742.10 (2024)* and the variations and additions within this Supplement, these traffic control devices may be installed under the Minister's *Instrument of General Approval and Delegation to Council*, or with the approval of the Department's Network Management Services. Traffic control devices which vary from this Supplement require the separate approval of the Department's Manager, Traffic Services for each location prior to installation.

Refer to the Department's *Code of Technical Requirements* for further details on the legal requirements for the use of traffic control devices.

1.3 Structure of this document

Part 2 of this document provides the details of the supplement information as follows:


- **DEPARTURE**: Where South Australia's practices differ from the guidance in the Australian Standard. Where this occurs, these differences or 'Departures' will be highlighted. The departure information takes precedence over the Australian Standard clause.
- **ADDITIONAL INFORMATION**: All information not identified as a departure provides further guidance to the Australian Standard and is read and applied with the Australian Standard clause.

Where a clause does not appear in the body of this Supplement, the Australian Standard requirements shall be followed.

Part 3 of this document, the Appendices, contain additional information in relation to pedestrian facilities not specifically covered in AS 1742.10.

Part 2. Details of Supplement Information

| General (Applicable to all Sections) | |
|--|--|
| <ul style="list-style-type: none"> Sign specification details of signs for use in South Australia are provided in the Department's Sign Index and the Australian Standard AS 1743 <i>Road Signs - Specifications</i>. The <i>Sign Index</i> provides the sign specification details of signs which are not included in the Australian Standards but have been developed for use in South Australia. For all other sign specification details, refer to AS 1743. Signs in AS 1743 which shall not be used in South Australia are listed in the Department's Code of Technical Requirements. Additional information on pavement marking for pedestrian control and protection devices is provided within the Department's Pavement Marking Manual. Standard drawings for pedestrian facilities are provided at the Department's Technical Documents - Standards and Guidelines web page. Regulations under the <i>Road Traffic Act 1961</i> including the <i>Australian Road Rules</i> (ARR) can be accessed at the South Australian Legislation web page. | |
| Section 4 - Introduction and general requirements | |
| Clause 4.2 - Purpose and suitability of facilities | ADDITIONAL INFORMATION |
| <p>The Austroads Australasian Pedestrian Crossing Facility Selection Tool may also be used to assist in the determination of appropriate pedestrian facilities.</p> <p>Austroads <i>Guide to Road Design Part 4: Intersections and Crossings: General</i> (2023) Section 8 provides design guidance for pedestrian crossings. Austroads <i>Guide to Traffic Management Part 6: Intersections, Interchanges and Crossings Management</i> (2020) Section 9 provides guidance on traffic management considerations for the use of pedestrian crossings.</p> | <p>AGRD Part 4 Section 8</p> <p>AGTM Part 6 Section 9</p> |
| <p>Numerical guidelines for the various types of pedestrian crossing facilities contained in this section are provided in Appendix B of this Supplement. Judgement should be used when applying these numerical guidelines to ensure the best overall pedestrian safety and traffic management solution for the site.</p> | <p>Appendix B in Part 3 of this Supplement</p> |
| Clause 4.3 - Provision for access and mobility | |
| Clause 4.3(b) - Pavement level ('cut through') access across medians and islands | ADDITIONAL INFORMATION |
| <p>Walkthroughs may be installed at locations where there is a significant frequency of pedestrian and/or cyclist movement but the traffic volume and numbers of pedestrians and cyclists do not warrant the installation of a controlled pedestrian crossing.</p> <p>All walkthroughs must have appropriately located fully accessible kerb ramps leading to the walkthrough. The exact location of a walkthrough may be aligned with the location of pedestrian network paths leading to a road or be determined by</p> | <p>Clause 9 in this Supplement for details</p> <p>Standard dwg S-4074 Sht 6</p> <p>Appendix A in Part 3 of this Supplement</p> |

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| conducting a pedestrian and traffic survey in accordance with Appendix A in Part 3 of this Supplement. | |
| Holding rails in accordance with Standard Drawing S-4020 Sheet 1 should be provided at mid-block refuges and walkthroughs where space permits. Holding rails are generally not provided at intersections. Where refuges / walkthroughs are provided at roundabouts, holding rails should be provided at the kerb ramps and splitter islands. | Standard dwg S-4020 Sht 1 |
| Clause 4.3(c) - Tactile ground surface indicators | ADDITIONAL INFORMATION |
| Warning tactile ground surface indicators (WTGSIs) shall be installed in accordance with the Department's Standard drawings . | AS/NZS 1428.4 Standard dwgs |
| Clause 4.3(d) - Audio-tactile push-button facilities at traffic signals | ADDITIONAL INFORMATION |
| <p>Pedestrian push-buttons assemblies shall:</p> <ul style="list-style-type: none"> (a) be orientated parallel to the crosswalk (side mounted on the post) and facing towards pedestrians about to use the crosswalk; (b) incorporate arrow legends (in the audio tactile display), oriented to guide vision impaired pedestrians in the same direction indicated by cross walk markings. <p>Pedestrian push-button assemblies which incorporate an Infrared Proximity (IR) sensor shall comply with design, construction and performance requirements specified for standard pedestrian push-button assembly in accordance with AS 2353 <i>Pedestrian push-button assemblies</i>. IR sensor sensitivity shall be adjustable and typically in the range of 70 mm to 120 mm.</p> <p>The push-button and switch mechanism shall operate independently to the IR sensor signal so that an IR sensor fault shall not result in the malfunction of the mechanical push-button or audio tactile signals. The approved User Instruction sticker (available on request from the Department's Traffic Services) shall be installed on the signal post where an IR sensor incorporated push-button is installed.</p> | <p>AS 2353</p>  |
| Clause 4.5 - Left turn slip lanes | DEPARTURE & ADDITIONAL INFORMATION |
| Children's crossings shall not be used across slip lanes in South Australia. | |
| Criteria for treatments on left turn slip lanes are provided in Appendix B of this Supplement. | Appendix B in Part 3 of this Supplement |
| Clause 4.5(a) - No controlled facility | DEPARTURE |
| Under the Australian Road Rules, drivers are required to give way to pedestrians and cyclists crossing a slip lane. | <p>ARR Rules 69(2A)(b), 72(4)(b) and 73(3)(b)</p> <p>Road Traffic (Road Rules Ancillary and Miscellaneous Provisions) Regulations 9A and 9B</p> |

The following signs may be used to support the regulatory requirement for drivers to give way to pedestrians and cyclists at slip lanes:

The Give Way to Pedestrians and Cyclists (R2-SA102) sign may be used at slip lanes where there is a need to improve driver awareness of the potential for pedestrians and promote the need to give way to them, typically where factors such as limited sight distance, concentrations of vulnerable pedestrians, or auxiliary lanes on the approach to the slip lane are present.

The Remember Give Way to Pedestrians and Cyclists When Turning (G9-SA110) may be used **where the R2-SA102 sign is present, however there are still reported issues of poor driver compliance. The G9-SA110 sign provides an additional general reminder to drivers of the road rules. Where used, it should be installed on the left in advance of the slip lane crossing point.**



R2-SA102



G9-SA110

Clause 4.5(b) - A pedestrian crossing (zebra crossing) with or without a raised platform

DEPARTURE
&
ADDITIONAL
INFORMATION

A zebra crossing (without a raised platform) shall not be installed at left turn slip lanes in South Australia. Zebra crossings currently installed at selected locations across the network are trial installation sites for the purposes of assessing their performance and developing future criteria for their use.

A wombat crossing (pedestrian crossing with a raised platform) may be installed at a left turn slip lane. Criteria for use are provided in Appendix B in Part 3 of this Supplement.

Appendix B in Part 3
of this Supplement

Clause 4.5(c) - A priority path crossing, including a raised platform

ADDITIONAL
INFORMATION

A priority path crossing, including a raised platform, may be installed at a left turn slip lane. Criteria for use are provided in Appendix B in Part 3 of this Supplement.

Appendix B in Part 3
of this Supplement

Clause 4.5(d) - Signal control

ADDITIONAL
INFORMATION

See Appendix B of this Supplement for criteria and considerations for providing signal control at slip lanes.

Appendix B in Part 3
of this Supplement

Refer also to [Operational Instruction 14.2 Traffic Signal Faces](#) Section 3.5.4 for requirements for signals on multi-lane slip lanes.

Operational
Instruction
14.2

Clause 4.6 - Raised pavements at crossings

ADDITIONAL
INFORMATION

Criteria for use of raised crossing treatments are provided in Appendix B in Part 3 of this Supplement.

Appendix B in Part 3
of this Supplement

Clause 4.6.2 - Raised platforms NOTE 2 - Raised platform profile

For mid-block raised platforms at crossings, and at raised platforms at crossings on bus routes, the profile shall be:

- Length of the flat section (i.e. the plateau of the raised platform measured in the direction of vehicle travel) shall be ≥ 6.6 m (On bus routes, this shall be ≥ 7.0 m)
- Length of the platform ramp (measured in the direction of vehicle travel) shall be ≥ 1.2 m (On bus routes, this shall be ≥ 2.0 m)

This profile adopts a longer platform design than the minimum specified in AS 1742.10 and Austroads *Guide to Road Design*, which allows a vehicle to bring both sets of wheels onto the platform at the same time and provides a less severe vertical deflection and “pitching action” than shorter length platforms.

For crossings at other locations (slip lanes, across side roads and at roundabouts), the profiles provided in Austroads *Guide to Road Design Part 4* should be adopted.

**AGRD Part 4
Section 8**

The leading and trailing edges of the platform ramps shall be flush with the adjacent pavement.

Clause 4.6.3 - Raised threshold treatments (continuous footpath)

**ADDITIONAL
INFORMATION**

In a continuous footpath treatment, the footpath adjacent to the main road is continued across a side road as a raised treatment, where the surface material matches that of the footpath, and ideally varies from the road surface material. It provides priority through the application of *Australian Road Rules 13, 74 and 75*. Under the *Australian Road Rule 13*, a footpath is a road related area, and under *Australian Road Rules 74 and 75*, when entering or crossing a road related area from a road, drivers must give way to any pedestrians or other road users on the road related area. This treatment is best suited to low vehicle volume, high pedestrian activity locations, due to the design features including a very narrow vehicle path and steep ramp grades (1:4) which ensure the treatment can only be negotiated at very low speeds by all vehicles at all times.

ARR 13, 74 and 75

Where used, continuous footpath treatments shall be installed in accordance with Austroads *Guide to Road Design Part 4 (2023)* Section 8.2.2 and AS 1742.10 Clause 4.6.3.

**AGRD Part 4
Section 8.2.2**

A “low vehicle volume” across this treatment should be < 45 vehicles per hour (refer [NSW Technical Direction TS 02667 Continuous footpath treatments](#) and Austroads *Guide to Road Design Part 4 (2017)*), and the main road traffic volume should be “modest vehicle demand (around 2000 vehicles per day or less)” (refer Austroads *Guide to Road Design Part 4 (2023)* Section 8.2.2), due to the impact on through traffic of turning vehicles negotiating this treatment at very low speed.

As this treatment is a road design treatment rather than a traffic control device, the road authority is responsible for determining the appropriateness of this treatment and addressing the recommendations of the Austroads guidance in their traffic impact statement for their decision making and records.

Clause 4.7 - Kerb ramps and approach paths

Kerb ramps at un-controlled facilities

Kerb ramps at pedestrian (and cyclist) walkthroughs and refuges shall be installed in accordance with [Standard Drawing S-4074 Sheet 6](#). This drawing also includes details of holding rails, vertical plinths and tactile ground surface indicators

Standard dwg
S-4074 Sht 6

Holding rails in accordance with [Standard Drawing S-4020 Sheet 1](#) should be provided at mid-block walkthroughs / refuges, and the kerb ramps associated with these facilities, where space permits. Holding rails are generally not provided at intersections. Where walkthroughs / refuges are provided at roundabouts, holding rails should be provided at the kerb ramps and splitter islands.

Standard dwg
S-4020 Sht 1

Vertical plinths shall be provided on the left side of kerb ramps where a minimum clearance of 1500 mm is available behind the holding rail for circulation space of wheelchairs and gophers. Holding rails placed at the back of the vertical plinth will effectively remove any tripping hazard it may cause.

Where the area on either side of the kerb ramp is not trafficable (i.e. an unformed untrafficable verge), vertical plinths shall be used on both sides of the kerb ramp instead of standard kerb wings (refer Type 5 kerb ramp on [Standard Drawing S-4074 Sheet 6](#)). However, if the minimum 1.5 m footpath width is not available behind the kerb ramp, consideration should be given to providing a formed trafficable area such that a Type 1 or Type 2 kerb ramp can be provided.

Standard dwg
S-4074 Sht 6

Kerb ramps at zebra crossings

At zebra crossings, the width of the kerb ramp is less than the width of the associated marked crossing. See variation to Clause 5.1 and Clause 5.5(a) in this Supplement.

Clause 5.1 and
5.5(a) in this
Supplement

At zebra crossings, the kerb ramp should be located centrally to the crossing. Its minimum width shall be 1.5 m. The outer edge of the kerb ramp (inclusive of any wings) shall terminate at least 1 m from either end of the stripe markings. The location of the kerb ramp and crossing pavement markings is dependent on the physical site conditions and pedestrian desire lines.

Clause 4.8 - Signs

Table 2 - Regulatory signs used for pedestrian facilities

DEPARTURE

In addition to the regulatory signs shown in Table 2, the Children Crossing 25 When Lights Flashing (R3-SA56) sign is used in South Australia at koala crossings (formerly referred to as Type 2 Children's Crossing in AS 1742.10 (2009)).

See Appendix C in Part 3 of this Supplement for details of koala crossings.



R3-SA56

Section 5 - Pedestrian Crossings (*WOMBAT and ZEBRA*)

Clause 5.1 - Introduction

**DEPARTURE
&
ADDITIONAL
INFORMATION**

Use of wombat and zebra crossings in South Australia varies from AS 1742.10 with respect to:

- The speed environment each crossing is permitted to be used in
- The dimensions of the crossing (minimum length of stripes, and lane widths)
- The profile of wombat crossings

These differences are summarised below, and also under each specific relevant clause.

On-street wombat crossings, on-street zebra crossings, off-street wombat crossings and off-street zebra crossings are each suited to different speed environments for their safe operation.

Off-street areas are typically designed as a lower speed environment hence crossings in these areas are subject to different requirements than on-street crossings.

An off-street area is defined as:

Any road-related area off the general road network, commonly used by the driving public or to which the driving public are permitted to have access, for example shopping centres, caravan parks, schools, National parks

**Refer to the
Speed Limit
Guideline for South
Australia
for details of speed
limits in off-street
areas**

Speed environment

Mid-block zebra and wombat crossings shall only be installed on roads with a speed limit of 50 km/h or less (see specific requirements for zebra and wombat crossings on slip lanes, across side roads and at roundabouts).

In addition to the requirement for a speed limit of 50 km/h or less, a lower speed environment is also required at and on approach to the crossing. This speed environment shall be as follows:

- 40 km/h for an on-street wombat crossing
- 30 km/h for an on-street zebra crossing
- 30 km/h for an off-street wombat crossing
- 20 km/h for an off-street zebra crossing

These reflect the level of conspicuity and visual presence of the various crossing dimensions. These speed environments are **not posted speed limits**, they should be assessed based on measured mean speeds or engineering judgement, and should occur 30 m to 50 m before the crossing on each approach. Lower speeds may be achieved through the use of local area traffic management devices (refer *Austrroads Guide to Traffic Management Part 8: Local Street Management*, AS 1742.13 and the Department's *Code of Technical Requirements*. Isolated devices on the approach and departure only, rather than in series along the road, may be considered).

For an on-street wombat crossing, where this speed environment requirement is not met, a full-time 40 km/h speed limit shall be signposted on approach (see variation to Clause 5.4 in this Supplement).

**Refer to
AGTM Part 8
AS 1742.13
Department's Code
of Technical
Requirements for
details of LATM
devices**

For zebra crossings, it is important that this low speed environment is achieved through street design rather than a reliance on a low posted speed limit. The use of kerb extensions to narrow the lane widths to 2.7 m or less is strongly recommended to assist in creating the low speed environment. Where a sufficiently low speed environment cannot be created through design, a wombat crossing should be considered instead.

Off-street areas, such as car parks, may need to cater for a high level of interaction between pedestrians, cyclists and vehicles, and where this occurs, off-street areas should be designed to create a speed environment of 20 km/h. If speeds within an off-street area exceed 20 km/h, pedestrian facilities need to compensate for the higher speed environment by offering a greater level of protection to pedestrians.

An off-street zebra crossing may be used where the speed environment is no greater than 20 km/h. Where the speed environment is greater than 20 km/h, the crossing type appropriate to the speed environment shall be used (see above).

Dimensions and raised platform profile

In South Australia, on-street zebra crossings were phased out in the 1970s and re-introduced in 2013, with measures such as the requirement for a low speed environment aligned with safe systems principles, and high visual presence to facilitate a safe reintroduction of this treatment to the network.

On-street zebra crossings in South Australia adopt a longer zebra stripe than the minimum specified in *AS 1742.10*. The zebra crossing markings indicate the closest point for drivers to stop to give way to pedestrians. In South Australia, the zebra stripes extend beyond the kerb ramp to provide a buffer between the pedestrian movement and the approaching vehicles.

On-street wombat crossings (mid-block) in South Australia adopt a longer platform design than the minimum specified in *AS 1742.10*, which allows a vehicle to bring both sets of wheels onto the platform at the same time and provides a less severe vertical deflection and “pitching action” than shorter length platforms.

The minimum dimensions shall be as follows:


On-street wombat crossing (mid-block) and bus routes:

- Length of the flat section (i.e. the plateau of the raised platform measured in the direction of vehicle travel) shall be ≥ 6.6 m (On bus routes, this shall be ≥ 7.0 m)
- Length of the zebra “stripe” markings (measured in the direction of vehicle travel) shall be ≥ 6.0 m
- Length of the platform ramp (measured in the direction of vehicle travel) shall be ≥ 1.2 m (On bus routes, this shall be ≥ 2.0 m)
- The road width at the crossing should be narrowed to minimise the crossing distance for pedestrians, ensure signs are clearly visible and contribute to creating a lower speed environment.


On-street zebra crossing (mid-block):

- Length of the zebra “stripe” markings (measured in the direction of vehicle travel) shall be ≥ 6.0 m, with ≥ 1 m of stripe extending past the outer edge of the kerb ramp wings in each direction.
- The road width at the crossing should be narrowed to lane widths ≤ 2.7 m. This minimises the crossing distance for pedestrians while also contributing to creating a lower speed environment. Where bicycle lanes are provided through the crossing, these should be narrowed to ≥ 1.0 m

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| <p>On-street wombat crossing (other locations):</p> <ul style="list-style-type: none"> On-street wombat crossings on slip lanes, across a side street near an intersection, or at roundabouts shall be in accordance with the dimensions and profile requirements of <i>AS 1742.10</i>. See above for the requirements for wombat crossings at these locations on bus routes. <p>On-street zebra crossing (other locations):</p> <ul style="list-style-type: none"> On-street zebra crossings across a side street near an intersection, or at roundabouts shall be in accordance with the dimensions of <i>AS 1742.10</i>, with a minimum of 1 m of stripe markings extending past the outer edge of the kerb ramp wings in each direction. <p>Off-street wombat crossing and off-street zebra crossings shall be in accordance with the dimensions and profile requirements of <i>AS 1742.10</i>.</p> | |
| <p>Road rules and regulations</p> <p>In South Australia, cyclists are permitted to ride across pedestrian crossings without dismounting.</p> <p>Drivers are legally required to give way to a pedestrian or rider of a bicycle on or entering the crossing, and must drive at a speed at which they can, if necessary, stop safely before the crossing. There is no requirement for drivers to wait for pedestrians or cyclists to clear the crossing.</p> | <p>ARR Rule 81 Road Traffic (Road Rules Ancillary and Miscellaneous Provisions) Regulations 9A and 9B</p> |
| <p>Suitability of a crossing, impacts and risks</p> <p>The effect of a crossing on the flow of vehicular traffic, including the length of queuing, depends on the combination of the frequency of pedestrians using the crossing, and the vehicle flow rate. This can have detrimental safety effects on and near the crossing as well as along the road for all road users. Therefore, the suitability of a crossing should be determined for the particular location.</p> <p>Where a crossing is installed in the vicinity of an intersection, the risks associated with locating the crossing near the intersection need to be addressed. These include:</p> <ul style="list-style-type: none"> the potential for blocking of the intersection when drivers give way to pedestrians on the crossing, the interaction between the give way requirements at the intersection and the crossing, and the potential for queued vehicles to block visibility of pedestrians on or approaching the crossing. | |
| <p>Consultation</p> <p>Emergency (ambulance and fire) services shall be consulted before installing a wombat crossing on a route frequently used by these services. If the crossing is located on an existing or intended bus route, SA Public Transport Authority (SAPTA)'s Integrated Service Planning and bus operators shall also be consulted.</p> | |
| <p>Council must obtain agreement and authorisation from the Department if it plans to install a crossing on a road under the care, control and management of the Commissioner of Highways.</p> | |

| Clause 5.2 - Description | DEPARTURE & ADDITIONAL INFORMATION |
|---|---|
| <p>Zebra and wombat crossings shall consist of the markings and signs in AS 1742.10, and the variations in Clause 5.1, Clause 5.4 and Clause 5.5 of this Supplement.</p> | |
| <p>The crossing shall be aligned with the adjacent paths to ensure the stripes are located centrally to the pedestrian desire line. At zebra crossings, the kerb ramp shall be located centrally to the crossing.</p> | |
| <p>At wombat crossings, pedestrian access must ensure that pedestrians are directed to cross at the stripes (on the platform) and not at the platform ramp.</p> <p>Additional treatment (e.g. fencing, landscaping) may be required to channelise pedestrians from the footpath to the crossing platform (at a wombat crossing) or the kerb ramps (at a zebra crossing).</p> | |
| <p>The length of no stopping zones adjacent to a pedestrian crossing facility shall ensure that a sight triangle remains unobscured by parked cars, landscaping, or street furniture. For the sight distance requirements at crossings, refer to Section 3.3 of Austroads <i>Guide to Road Design Part 4A: Unsignalised and Signalised Intersections (2023)</i>.</p> | AGRD Pt 4A Section 3.3 |
| <p>Continuously operating twin alternating flashing yellow signals may supplement the Pedestrian Crossing (R3-1) signs where:</p> <ul style="list-style-type: none"> it is necessary to increase the visibility of the crossing, or the AADT is greater than 5000 vehicles, or the crossing provides a direct link to an off-road shared path, such that crossing users may be approaching from an off-road path rather than the footpath adjacent to and parallel with the road, or the crossing is located near a school. |  <p>R3-1 with twin alternately flashing yellow signals</p> |
| Clause 5.3 - Requirements for installation | |
| Clause 5.3(a) - Mid-block crossing | |
| Clause 5.3(a)(i) - One lane in any one direction | ADDITIONAL INFORMATION |
| <p>Where a bicycle lane is provided in addition to a lane for moving motor vehicle traffic at a zebra crossing, the width of the bicycle lane may be a minimum of 1 m on the approach to the zebra crossing, and the other lane should be 2.7 m wide or less to maintain the low speed environment.</p> <p>For further information on bicycle lanes and pavement markings within bicycle lanes near a mid-block zebra crossing, see Appendix E in Part 3 of this Supplement.</p> | <p>Clause 5.1 of this Supplement</p> <p>Appendix E in Part 3 of this Supplement</p> |
| Clause 5.3(a)(ii) - Sight distance | ADDITIONAL INFORMATION |
| <p>Sight distance requirements are provided in Austroads <i>Guide to Road Design Part 4A: Unsignalised and signalised intersections</i>. Unless parking control signs permit otherwise, the Australian Road Rules prohibits drivers from stopping 20 m before and 10 m after the crossing. Installation of parking zones adjacent to a pedestrian</p> | <p>AGRD Pt 4A Section 3.3</p> <p>ARR Rule 172</p> |

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| crossing facility shall ensure that a sight triangle remains unobscured by parked cars, landscaping, or street furniture. | |
| Clause 5.3(a)(iii) - Speed on approach to the crossing | DEPARTURE |
| Refer to Speed Environment requirements under the variation to Clause 5.1 in this Supplement. | Clause 5.1 of this Supplement |
| Clause 5.3(a) NOTE - Warrants for provision | ADDITIONAL INFORMATION |
| <p>The crossing should be located where concentrations of pedestrians naturally cross the road, including any latent demand.</p> <p>A detailed survey of pedestrian and vehicle movements should be undertaken to justify the installation and to determine the optimum location of a pedestrian crossing. For guidance, see Appendix A in Part 3 of this Supplement.</p> <p>This note states that road authorities may specify numerical warrants for mid-block pedestrian crossings. South Australian numerical guidelines for the provision of on-street crossings are contained in Appendix B in Part 3 of this Supplement.</p> <p>In off-street areas, an off-street zebra or wombat crossing shall connect areas where pedestrians are separated and protected from vehicles on the road. For example, installing a pedestrian crossing between a footpath alongside a building to a kerb extension on the opposite side of the road or car park circulating lane.</p> | <p>Appendix A in Part 3 of this Supplement</p> <p>Appendix B in Part 3 of this Supplement</p> |
| Clause 5.3(b) - Crossings on slip lanes | DEPARTURE |
| <p>Zebra crossings shall not be installed at left turn slip lanes in South Australia. Zebra crossings currently installed at selected locations across the network are trial installation sites for the purposes of assessing their performance and developing future criteria for their use.</p> <p>Wombat crossings at slip lanes shall follow the principles given in Clause 5.3(a), including the speed environment requirements under the variation to Clause 5.1 in this Supplement.</p> <p>See Clause 4.5 in this Supplement for treatment of slip lanes.</p> | Clause 4.5 of this Supplement |
| Clause 5.3(c) - Crossings at other locations | ADDITIONAL INFORMATION |
| <p>Pedestrian crossings at other locations shall follow the principles given in Clause 5.3(a), including the speed environment requirements under the variation to Clause 5.1 in this Supplement.</p> <p>Where a crossing is installed in the vicinity of an intersection, the potential for queued vehicles to block visibility of pedestrians on or approaching the crossing near the intersection should also be addressed.</p> | <p>Clause 5.1 of this Supplement</p> <p>ARR Rule 128A</p> <p>AS 1742.10</p> <p>Clause 5.1 and this Supplement for details and risks to be addressed</p> |
| Clause 5.4 - Signs | ADDITIONAL INFORMATION |
| At wombat crossings, a low speed environment with mean speeds in the order of 40 km/h or less (based on engineering judgement) should occur 30 m to 50 m before a wombat crossing on each approach (as stated in the variation to Clause 5.1 in this Supplement). This may be achieved through the use of local area traffic management devices. | |

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| <p>At mid-block wombat crossings, where this requirement is not met, a full-time 40 km/h speed limit shall be signposted 30 m to 50 m either side of the crossing.</p> <p>Where used, 40 km/h speed limit (R4-1) signs shall be duplicated on each side of the road, on each approach to the crossing, located 30 m to 50 m in advance of the crossing.</p> <p>A single R4-1 sign indicating the continuing speed limit along the road shall be provided where necessary to terminate the 40 km/h speed limit. The size of the R4-1 signs shall be 'B' size in accordance with <i>AS 1742.4 MUTCD Part 4: Speed controls (2020)</i> Table 3.2. This may be omitted where the crossing is located on a road which terminates at a T-intersection, and the crossing is located within 80 m of that T-intersection.</p> <p>Signposting a 40 km/h speed limit at wombat crossings at slip lanes or roundabouts is not recommended.</p> <p>Refer also to the <i>Speed Limit Guideline for South Australia</i> (Appendix C.5 - Crossing types permitted in school zones) for considerations of wombat crossings within school zones.</p> |  <p>R4-1 (40)</p> <p>Speed Limit Guideline for South Australia</p> |
| <h2>Clause 5.5 - Pavement markings</h2> | |
| <h3>Clause 5.5(a) - Crossing markings (ZB)</h3> <p>The pedestrian crossing marking (parallel white stripes / longitudinal bars) shall be in accordance with the dimension requirements specified in the variation to Clause 5.1 in this Supplement.</p> <p>They shall extend across the full width of the carriageway. The markings shall extend through any raised channelising island to form a single continuous crossing.</p> <p>At zebra crossings, the kerb ramp should be located centrally to the crossing. Its minimum width shall be 1.5 m. The outer edge of the kerb ramp (inclusive of any wings) shall terminate at least 1 m from either end of the stripe markings. The location of the kerb ramp and crossing pavement markings is dependent on the physical site conditions and pedestrian desire lines.</p> | <p>DEPARTURE</p> <p>Clause 5.1 of this Supplement</p> <p>PMM Sections 2.1.2.3 and 3.3.24.4</p> |
| <h3>Clause 5.5(b) - Raised pavement ramp markings</h3> <p>Platform and ramps shall be constructed in a material that contrasts in colour with the pavement markings. Refer to Section 1.3.7 of the <i>Pavement Marking Manual</i> for the use of black paint to improve contrast on light coloured pavement.</p> | <p>ADDITIONAL INFORMATION</p> <p>PMM Sections 1.3.7 and 2.1.13</p> |
| <h3>Clause 5.5(d) - Other markings and surface treatments</h3> <p>The "Ped Xing" pavement marking may be used to supplement the W6-2-x sign in advance of a pedestrian crossing. Refer Section 2.1.8.2 of the <i>Pavement Marking Manual</i>.</p> | <p>ADDITIONAL INFORMATION</p> <p>PMM Section 2.1.8.2</p> |
| <p>For further information on bicycle lanes and permitted pavement markings within bicycle lanes near a mid-block zebra crossing, see Appendix E.</p> | <p>Appendix E in Part 3 of this supplement</p> |

Clause 5.6 - Typical layouts

**DEPARTURE
&
ADDITIONAL
INFORMATION**

For Figure 5.1 and Figure 5.2 (mid-block crossings), and crossings on bus routes, see Clause 5.1 “Dimensions and raised platform profile” in this Supplement for the specific variations to the dimensions shown the typical layouts.

**Clause 5.1 of this
Supplement**

Crossings across a side road should achieve a minimum of one car length setback from the main road. Refer to the design requirements in Austroads *Guide to Road Design Part 4* Section 9.3 for ‘straight’ or ‘bent-out’ crossings.

**AGRD Pt 4
Section 9.3**

Section 6 - Priority path crossing

Clause 6.1 - Introduction

**ADDITIONAL
INFORMATION**

In South Australia, cyclists are permitted to ride across pedestrian crossings without dismounting. A priority path crossing is used to provide a priority crossing as part of a separated path treatment, so that separation of pedestrians and cyclists is maintained across the crossing.

See Appendix B in Part 3 of this Supplement for criteria for use.

**Appendix B in Part 3
of this Supplement**

Clause 6.2 - Description

DEPARTURE

Priority path crossings shall be located on a raised platform. For mid-block crossings, and crossings on bus routes, see Clause 4.6.2 for the profile of the raised platform.

**Clause 4.6.2 of this
Supplement**

Clause 6.3 - Requirements for installation

Clause 6.3(a) - Raised platforms

DEPARTURE

Priority path crossings shall be located on a raised platform. For mid-block crossings, and crossings on bus routes, see Clause 4.6.2 for the profile of the raised platform.

**Clause 4.6.2 of this
Supplement**

Clause 6.3(b) - Mid-block priority path crossings

DEPARTURE

The speed environment requirements of Clause 5.1 of this Supplement for a wombat crossing shall also apply to priority path crossings.

**Clause 5.1 of this
Supplement**

Clause 6.3(b) NOTE – Warrants for provision

**ADDITIONAL
INFORMATION**

This note states that road authorities may require specific volume warrants for crossings. South Australian criteria for the use of the provision of this crossing type is contained in Appendix B in Part 3 of this Supplement.

**Appendix B in Part 3
of this Supplement**

Clause 6.3(c) - Priority path crossings on slip lanes

DEPARTURE

The speed environment requirements of Clause 5.1 of this Supplement for a wombat crossing shall also apply to priority path crossings.

**Clause 5.1 of this
Supplement**

Clause 6.3(d) - Priority path crossings at other locations

DEPARTURE

The speed environment requirements of Clause 5.1 of this Supplement for a wombat crossing shall also apply to priority path crossings.

**Clause 5.1 of this
Supplement**

Clause 6.5 - Pavement markings

Clause 6.5(d) - Coloured surface treatment

DEPARTURE

The yellow coloured surface treatment for the footpath portion is not required in South Australia.

Clause 6.6 - Typical layouts

**DEPARTURE
&
ADDITIONAL
INFORMATION**

For Figure 6.1 (mid-block crossing), and crossings on bus routes, see Clause 4.6.2 for the profile of the raised platform.

**Clause 4.6.2 of this
Supplement**

Crossings across a side road should achieve a minimum of one car length setback from the main road. Refer to the design requirements in Austroads *Guide to Road Design Part 4* Section 9.3 for 'straight' or 'bent-out' crossings.

**AGRD Pt 4
Section 9.3**

Section 7 - Children's Crossing (Emu crossing)

Clause 7.1 - Purpose and safe operation

DEPARTURE

Two types of children's crossings are described in ARR Rule 80. Both types are used in South Australia. The 2024 version of AS 1742.10 only includes the 'Emu crossing', which operates when "Children Crossing" flags are displayed. Details of the 'Koala crossing', which operates when the yellow lights are flashing, are contained in Appendix C in Part 3 of this Supplement.

ARR Rule 80
See Appendix C in Part 3 of this Supplement for koala crossings

Other crossings described in AS 1742.10 and this Supplement may also be used to cater for school children.

Clause 7.2 - Description

DEPARTURE

Emu crossings shall also comprise of the following items, as shown in Figure 7.1 in this Supplement:

- Emu crossings shall be located within a school zone (see the Department's *Speed Limit Guideline for South Australia*).
- The 25 km/h school zone speed limit operates when a child is present within the school zone

Figure 7.1 in this Supplement
Speed Limit Guideline for South Australia

Clause 7.2(a) - Location of Stop lines (SL)

DEPARTURE

The stop line at an emu crossing should be located as close as practical to 6 m in advance of the crossing, and generally adjacent the post and flag assembly. ARR Rule 80 requires drivers to stop as near as practicable to, but before reaching the stop line.

Where driveways or other physical road geometry features adjacent to the crossing make the installation of the post and flag assembly at this location impractical, it may be located within the range of 3 m to 10 m from the crosswalk. If the post and flag assembly can only be located > 6 m from the crossing, consideration should be given to installing the stop line at 6 m, instead of directly adjacent to the post and flag assembly. This will assist to reduce the risk of poor compliance with the stop line which may occur if it is located further from the crossing.

Where the crossing is to be installed on a one-way road, the traffic control devices not applying to the direction of travel should be omitted.

ARR Rule 80
PMM
Section 3.3.24.2

Clause 7.2(c) - No Stopping signs

ADDITIONAL
INFORMATION



No Stopping (R5-36) signs shall be provided as shown on Figure 7.1 in this Supplement.

R5-36 (7 am to 5 pm School Days) may be used as an alternative to the R5-36 (no times School Days) to allow parking at other times. A full time no stopping restriction (R5-35) may be used if there is a need to prohibit stopping on this section of road at all times.

ARR 171



R5-36

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| Clause 7.2(d) - Hand STOP banner | ADDITIONAL INFORMATION |
| <p>The double-sided hand-held stop banners (R6-7) used at monitored crossings shall be 375 mm in diameter and mounted on a handle 1.8 m to 2.2 m in length (measured to underside of the R6-7 sign).</p> |  <p>R6-7</p> |
| <p>Clause 7.2(f) - Children Crossing (R3-3) flags</p> <p>The CHILDREN CROSSING flag (R3-3) must be displayed to be legally effective. The flags shall be displayed only during periods when school children are likely to be proceeding to or from school within normal school hours and not at other times. Generally, these periods occur at the start and end of the normal school hours, but there may be a need for the crossing to operate during school hours (e.g. for times when students are required to cross the road as part of a school activity, to cater for students travelling between campuses, or for students travelling to and from facilities such as sports grounds during the day).</p> <p>An emu crossing operating outside of normal times may be confusing to drivers. If the flags are displayed when students are not likely to use the crossing, drivers may disregard them. This can lead to increased risk to the children at other crossings.</p> <p>Emu crossings are not intended to operate outside of daylight hours as the road lighting is likely to be insufficient for the safe operation of the crossing.</p> | <p>ADDITIONAL INFORMATION</p>  <p>R3-3</p> |
| <p>Clause 7.2(h) - Raised Crossing (W8-31) sign</p> <p>As an emu crossing only provides pedestrian priority on a part-time basis, an emu crossing shall not be installed on a raised platform, and therefore the Raised Crossing (W8-31) sign shall not be used at children's crossings. Where a crossing on a raised platform is required, consideration should be given to installation of a wombat crossing instead.</p> | <p>DEPARTURE</p> |

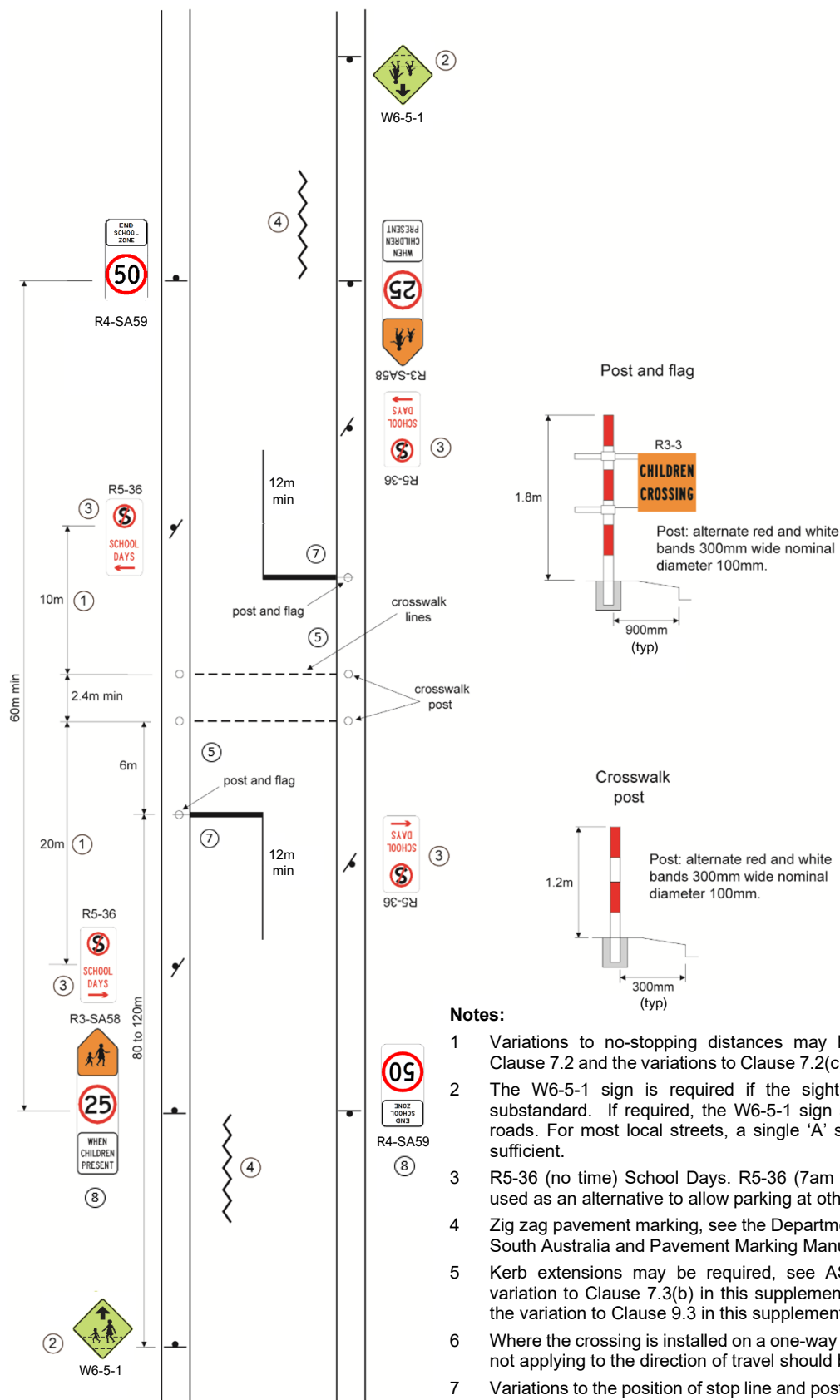


Figure 7.1 - Emu Crossing Details – DEPARTURE

Clause 7.3 - Requirements for installation

Clause 7.3(a) - Number of lanes

DEPARTURE

Emu crossings shall not be installed on multi-lane roads.

Lane widths at the crossing should be minimised to reduce the crossing distance for pedestrians and promote lower speeds at the crossing. Refer to the Austroads *Guide to Road Design Part 3 Geometric Design*, and Austroads *Guide to Traffic Management Part 8: Local Street Management* for guidance on lane widths for the speed environment and function, and consideration of cyclist squeeze points.

Where kerb extensions are impractical to achieve the desired lane widths, a raised median or painted median supplemented with pavement bars, may be installed.

If an emu or koala crossing is to be monitored during periods of high concentration of use by children, the monitors shall be trained by Police. For details, see Appendix D in Part 3 of this Supplement. The use of monitors does not vary the geometric requirements for the maximum number of travel lanes at the crossing.

Appendix D in Part 3 of this Supplement

Clause 7.3(b) - Sight distance

ADDITIONAL INFORMATION

Installation of parking zones adjacent to an emu or koala crossing shall ensure that a sight triangle remains unobscured by parked cars, landscaping or street furniture. For the sight distance requirements at crossings, refer to Section 3.3 of Austroads *Guide to Road Design Part 4A: Unsignalised and Signalised Intersections* (2017) and Section 8.2.2 of Austroads *Guide to Road Design Part 4: Intersections and Crossings – General* (2017). Installation of parking control signs which vary the minimum no stopping distances contained in the Australian Road Rules are only permitted where sight distance requirements are met.

AGRD Part 4A
Section 3.3

AGRD Part 4
Section 8.2.2

ARR 171

Clause 7.3 NOTE - Warrants for provision

ADDITIONAL INFORMATION

This note states that road authorities may specify numerical warrants for children's crossings. South Australian numerical guidelines for the provision of children's crossings are contained in Appendix B in Part 3 of this Supplement.

Appendix B in Part 3 of this Supplement

Clause 7.3 - Additional conditions

ADDITIONAL INFORMATION



Separation between koala crossings and school zones on the same road:

Where an emu crossing and a koala crossing are installed on the same section of road, the koala crossing, and the school zone (required for the emu crossing) must be separated by a minimum of 100 m. This is because the 25 km/h speed limits associated with the koala crossing and the school zone operate under different conditions, and each has separate signing requirements.

See Appendix C in Part 3 of this Supplement for koala crossings

NOTE: ARR Rules 21 and 23 refer to the ending of a speed zone with a speed limit sign "with a *different number* on the sign" (i.e. not a speed limit sign with the same number and a different time or condition), hence the above requirement for separation between the two treatments.

Refer to the Department's *Speed Limit Guideline for South Australia* for details of school zones.

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| An emu crossing shall not be installed on an unsealed road. | |
| <p>Clause 7.4 - Signs</p> | <p>ADDITIONAL INFORMATION & DEPARTURE</p> |
| <p>The R3-SA58 signs shall be installed a minimum of 30 m prior to the crosswalk lines on each approach to the emu crossing (see Figure 7.1 in this Supplement) and the Department's <i>Speed Limit Guideline for South Australia</i>.</p> <p>On arterial roads the signs shall be 'B' size and duplicated. For most local streets, a single 'A' size on each approach is sufficient.</p> |  <p>R3-SA58</p> |
| <p>The R4-SA59 signs shall be installed opposite the R3-SA58 sign as shown on Figure 2.3. The sign R4-SA59 sign shall match the size of the R3-SA58 sign.</p> <p>The R4-9/R4-1 sign combination may be used as an alternative to the R4-SA59.</p> <p>For school zones within an area speed limit, the R4-SA60 or R4-SA61 sign shall be used instead of the R4-SA59 sign. See the Department's <i>Speed Limit Guideline for South Australia</i> for details of school zones.</p> |  <p>R4-SA59</p> |

Section 8 - Pedestrian Operated Traffic Signals (Mid Block)

Clause 8.1 - Description

DEPARTURE

Formerly referred to as Pedestrian Actuated Crossings (PACs). South Australian documentation retains the use of the term Pedestrian Actuated Crossing (PAC).

Pelican crossings

DEPARTURE

Pelican crossing operation of PACs shall not be used in South Australia

Clause 8.2 - Guidelines for installation

ADDITIONAL
INFORMATION

South Australian warrants and guidelines for the provision of Pedestrian Actuated Crossings (PACs) are contained in Appendix B in Part 3 of this Supplement.

Appendix B in Part 3
of this Supplement

PAC on raised platform

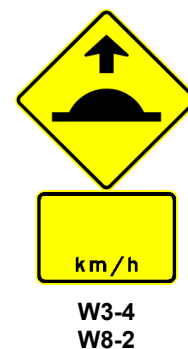
A PAC may be installed on a raised platform. For details of raised platform profile height and ramp grades, refer to Section 6 of the VicRoads [Road Design Note 03-07 - Raised Safety Platforms \(content.vic.gov.au\)](https://www.vic.gov.au/road-design-note-03-07-raised-safety-platforms-content.vic.gov.au) (Extracted in Appendix G of this Supplement).

For raised platforms on bus routes, the length of the flat section (i.e. the plateau) of the raised platform shall be 7 m in length and the length of the ramps shall be 2 m.

The crosswalk shall be located centrally on the platform, with the crosswalk lines located 1 m from top of the ramp. For guidelines on advance warning signs (W3-4, W8-2), see Clause 8.4 of this Supplement. For criteria for the provision of a PAC on a raised platform, see Appendix B in Part 3 of this Supplement.

A PAC on a raised platform **shall not** be installed where:

- visibility is restricted (i.e. where the sight distance requirements to traffic signals specified in AS 1742.14 cannot be met);
- approach speeds are high (i.e. greater than 60 km/h); or
- the signal installation is in an isolated location and may be unexpected.



Clause 8.3 - Limitations on installation

DEPARTURE

Pedestrian Actuated Crossings should not be installed in speed zones greater than 70 km/h. In exceptional circumstances, a PAC may be installed in a speed zone of 80 km/h where:

- it is not in an isolated location (i.e. there are signalised intersections nearby),
- the adjacent development provides visual cues to drivers to expect pedestrians and/or cyclist crossing activity, and
- its operation is coordinated with adjacent signals. (e.g. Main North Road, Elizabeth between Phillip Hwy and Elizabeth Way intersections)

Pelican crossing phasing of PACs shall not be used in South Australia.

Clause 8.4 - Signs and pavement markings

Clause 8.4(b) - Signals ahead (W3-3-2) sign

**ADDITIONAL
INFORMATION**

Clause 8.4(c) - Crossing Ahead (W8-22) sign

Figure 8.1 NOTE 3 - W3-3-2 sign

Figure 8.2 NOTE 3 - W3-3-2 sign

The Crossing Ahead (W8-22) supplementary sign should only be used with the W3-3-2 sign where the W3-3-2 is required in accordance with AS 1742.10 Clause 11.2(a) **and** the crossing is located less than 200 metres in advance of a signalised intersection.

**AS 1742.10
Clause 11.2(a)**



**W3-3-2
W8-22**

Where a PAC is located such that the stop line is less than 15 m from a side road, the Signals Ahead (W3-3-2) sign with On Side Road (W8-SA3 (L or R)) sign shall be installed on the side road. It may also be required where the PAC is located within 30 m of a side road and additional warning of the crossing for drivers entering the road is required.



**W3-3-2
W8-SA3**

**Standard Dwg
S-4018 Sht 7, 8, 9**

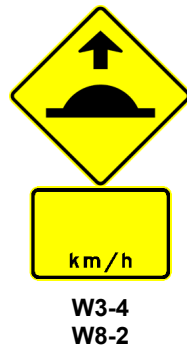
The School (W8-14) supplementary sign may be used with the W3-3-2 sign in advance of a PAC located at or near a school.



**W3-3-2
W8-14**

For the use of 40 km/h school precinct speed limits at PACs, refer to the Department's *Operational Instruction 4.13*.

**Operational
Instruction 4.13**

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| Clause 8.4 - Warning signs at PAC on raised platform | |
| <p>At a PAC on a raised platform, the Road Hump Ahead (W3-4) sign and Advisory Speed (W8-2) sign combination shall be used instead of the W3-3-2 sign. The Road Hump Ahead (W3-4) sign and Advisory Speed (W8-2) sign combination shall be installed in advance of the crossing, in order to avoid obstructing or detracting from the signals. The Road Hump (W5-10) and Advisory Speed (W8-2) sign combination shall not be used.</p> <p>A PAC on a raised platform shall not be used at a location which would require the use of the W3-3-2 sign (see Clause 11.2(a)). The value of the advisory speed to be displayed on the W8-2 sign shall be in accordance with the comfortable maximum speed for the ramp grade as shown in Table 1 of Vicroads Road Design Note 03-07 - Raised Safety Platforms (content.vic.gov.au) (extracted in Appendix G). The W8-2 sign shall be omitted where this value is the same as the posted speed limit.</p> <p>Where a raised PAC on the main road is installed within the vicinity of a side road such that the W3-3-2 / W8-SA3 combination (see above) is required, the W3-3-2 / W8-SA3 combination on the side road shall be retained. In this situation, drivers entering from the side road are likely to be at low speed when traversing the raised platform on the main road and therefore specific warning to these drivers of the hump and advisory speed is not required.</p> |  |
| Clause 8.4(d) - Stop lines at PAC on raised platform | ADDITIONAL INFORMATION |
| Where a PAC is installed on a raised platform, the Stop line shall be located in accordance with the relevant PAC standard drawing. | Standard Dwg S-4018 Sht 7, 8, 9 |
| Clause 8.4(e) - Marked crosswalk | DEPARTURE |
| <p>Figure 8.1 Crosswalk dimension</p> <p>Figure 8.2 Crosswalk dimension</p> | |
| The 2.4 m minimum crosswalk and 6 m spacing between the crosswalk and the Stop line / primary signal pole location shown on Figures 8.1 and 8.2 do not achieve the desirable requirement of AS 1742.14 Clause 6.2.1(g). AS 1742.14 Clause 6.2.1(g) specifies a desirable spacing between the Stop line and the secondary or tertiary signal face of 10 m, however in South Australia 11 m separation is desirable. Minimum crosswalk width should be 5 m. Refer the relevant PAC standard drawing. | <p>AS 1742.14 Clause 6.2.1(g)</p> <p>Standard Dwg S-4018 Sht 7, 8, 9</p> <p>Standard Dwg S-4075 Sht 2</p> |
| Clause 8.4(e) - Marked crosswalk at PAC on raised platform | ADDITIONAL INFORMATION |
| Where a PAC is installed on a raised platform, the crosswalk width of 5 m shall be located centrally on the platform, with the crosswalk lines located 1 m from top of the ramp. | |
| Clause 8.4 - Piano key markings at PAC on raised platform | ADDITIONAL INFORMATION |
| Where a PAC is installed on a raised platform, road hump markings (PK in as detailed in AS 1742.2 Clause 5.5 and the Department's <i>Pavement Marking Manual</i>) shall be provided on the ramp. | <p>AS 1742.2 Clause 5.5</p> <p>PMM Section 2.1.13.12</p> |

Section 9 - Physical Pedestrian Facilities

Clause 9.2 - Pedestrian refuge islands and median walkthroughs

Clause 9.2.2 - Installation

ADDITIONAL INFORMATION

Refuges shall be installed in accordance with the Department's [Standard Drawing S-4075 Sheet 4](#), with line marking and RRPMS in accordance with the *Pavement Marking Manual*.

Standard Dwg
S-4075 Sht 4

All refuges/walkthroughs in medians shall be aligned at 90 degrees to the median kerb to provide directional wayfinding clues to assist pedestrians who are blind, or vision impaired to cross the road and find the destination kerb ramp.

PMM
Section 3.3.24.1,
Section 2.1.14

For requirements for holding rails at refuge islands, traffic islands and medians (and their associated kerb ramps), see Clause 4.7 in this Supplement and [Standard Drawing S-4020 Sheet 1](#).

Clause 4.7 of this
Supplement for
holding rails

Standard dwg
S-4020 Sht 1

Refuges should not unexpectedly constrict road width or create a squeeze point hazard for on-road cyclists. Vehicles must be able to successfully negotiate any deviation from their normal travel path around the refuge while maintaining sufficient clearance from the refuge and parked vehicles. Care should be taken when locating refuges in the vicinity of bus stops.

For details of the use of kerb extensions in conjunction with refuge islands, refer to AS 1742.10 Clause 9.3 and this Supplement.

AS 1742.10 Clause 9.3
and this Supplement
for kerb extensions

Isolated speed reducing measures (e.g. LATM treatments such as road cushions, raised platforms, or speed humps) should not be used at or adjacent to a pedestrian refuge as they may inadvertently create confusion about road user priority. Refer *Austrroads Guide to Traffic Management Part 8: Local Street Management* for appropriate use of LATM treatments.

AGTM Part 8
Sections 3, 4.3.2 and
9.1

For information on shared pedestrian/cyclist refuges refer to *Austrroads Guide to Road Design Part 4: Intersections and Crossings* Figure C2 and AS 1742.9 Section 3.7.3. For details of signs, see Clause 11.3 in this Supplement.

AGRD Part 4
Figure C2
AS 1742.9
Clause 11.3 in this
Supplement for signs

Figure 9.1 - Pedestrian Refuge

DEPARTURE & ADDITIONAL INFORMATION

The minimum gap in the refuge/walkthrough (the spacing between islands measured longitudinally as indicated in AS 1742.10 Figure 9.1 Note 2) shall be 2.1 m, as shown on the Department's [Standard Drawing S-4075 Sheet 4](#).

Standard Dwg
S-4075 Sht 4

Refer to AS 1742.10 Clause 11.3 and this supplement for details of warning signs in conjunction with refuges islands and median walkthroughs.

AS 1742.10 Clause
11.3 and this
Supplement

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| Clause 9.2.3(c) - Guidelines for installation | ADDITIONAL INFORMATION |
| <p>For guidance on assessing two-way traffic volumes and the level of difficulty to cross the road, see Appendix B8 in Part 3 of this Supplement.</p> <p>The exact location of a refuge may be aligned with the location of pedestrian and shared network paths leading to a road or be determined by conducting a pedestrian and traffic survey in accordance with Appendix A in Part 3 of this Supplement.</p> | <p>Appendix B8 in Part 3 of this Supplement</p> <p>Appendix A in Part 3 of this Supplement</p> |
| Clause 9.2.4 - Central islands at marked crossings | DEPARTURE |
| <p>Where central islands are installed adjacent to a marked crossing or pedestrian guide lines, no separation between the island and crossing is required. At a mid-block PAC with a median, median and crosswalk lines shall be installed in accordance with the relevant standard drawing.</p> | |
| Clause 9.3 - Kerb extensions | ADDITIONAL INFORMATION |
| <p>For kerb extensions at koala and emu crossings, refer to the Department's Standard Drawing S-4074 Sheet 5.</p> <p>NOTE: Dimension K* on this drawing is used for the length of a kerb extension at un-signalised crossings. The size of the kerb extension may be adjusted to suit environmental features such as driveways and on-street parking, and the anticipated volume of pedestrians and cyclists which may be stored on the kerb extension at one time.</p> | <p>Standard Dwg S-4074 Sht 5</p> |
| <p>For other kerb extensions, refer to the Department's Standard Drawing S-4075 Sheet 4.</p> | <p>Standard Dwg S-4075 Sht 4</p> |
| <p>Kerb extensions shall be constructed opposite a pedestrian refuge where full-time parking is permitted (e.g. a dedicated parking lane), or where the remaining portion of a road to cross exceeds 4.5 m for two lane-two-way roads, to prevent drivers overtaking.</p> <p>The width of a kerb extension will depend on the available road width and lane width requirements for the expected motor vehicle composition along the road.</p> <p>Refer to the <i>Austroads Guide to Road Design Part 3 Geometric Design</i>, and <i>Austroads Guide to Traffic Management Part 8: Local Street Management</i> for guidance on lane widths for the speed environment and function, and consideration of cyclist squeeze points.</p> <p>A kerb extension can be incorporated in the road verge or nature strip if drainage can be provided. Otherwise, a channel between the kerb extension and the existing kerb is required for drainage. If this drainage has the potential to be a hazard to pedestrians, the channel should be covered, or the pedestrians should be physically prevented from reaching it.</p> <p>Pedestrian safety fencing must not be used on a kerb extension. It may be used at the kerb side.</p> <p>A holding rail and vertical plinths shall be provided on the kerb extension in accordance with the Department's Standard Drawing S-4074 Sheet 6, to suit the kerb extension size and trafficable area.</p> | <p>Standard Dwg S-4074 Sht 6</p> |

Kerb extensions shall be suitably delineated with painting of the kerbs, pavement marking, and Unidirectional Hazard markers (D4-1-2) in accordance with the requirements of AS 1742.2.

**PMM Sections 2.1.17
and 3.3.16
AS 1742.2**

Section 10 - Pedestrian malls

Figure 10.1 - Example of Wheeled Devices Prohibited signs

**ADDITIONAL
INFORMATION**

For use of the signs to prohibit wheeled recreation devices (R6-SA104) sign, refer to Department's [Operational Instruction 2.12 – Wheeled Recreational Devices](#).

**Operational
Instruction 2.12**

Section 11 - Warning Signs

Clause 11.2 - Warning signs for pedestrian crossings

Clause 11.2(a) - Crossing ahead (W8-22) sign

**ADDITIONAL
INFORMATION**

The Crossing Ahead (W8-22) supplementary sign should only be used with the W3-3-2 sign where the W3-3-2 is required in accordance with AS 1742.10 Clause 11.2(a) **and** the crossing is located less than 200 metres in advance of a signalised intersection.



W8-22

Clause 11.2(b) - Pedestrian crossing ahead (W6-2-x) sign

**ADDITIONAL
INFORMATION**

Where a wombat crossing is located on a slip lane, the W6-2-2 sign (with 45 degree arrow) should be used if visibility of the R3-1 signs is obstructed and advance warning of the crossing is required.

The W6-2-3 sign (with horizontal arrow) should be installed on a side road where the crossing is present on an intersecting road within 40 m of the side road, in particular where the crossing is located to the left. Drivers turning left from the side road on to the intersecting road may tend to focus their attention to the right when checking for a gap in traffic and therefore be less aware of a crossing facility located to their left.



W6-2-1



W6-2-2



W6-2-3





Clause 11.2(e) - Raised Crossing (W8-31) sign






DEPARTURE

Children's Crossings shall not be installed on a raised platform.

The Raised Crossing (W8-31) sign is not to be used in South Australia.

For wombat crossings and priority path crossings, the requirements of this Supplement are intended to ensure that these treatments are located where

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| <p>vehicles are already travelling slowly, and therefore the use of the W8-31 sign is not required.</p> <p>For a PAC located on a raised platform, see Clause 8.4 of this Supplement for use of warning signs.</p> | <p>Clause 8.4 of this Supplement</p> |
| <p>Clause 11.3 - Warning signs for pedestrian not at crossings</p> | <p>ADDITIONAL INFORMATION</p> |
| <p>Warning signs are used to warn motorists of the unexpected presence of pedestrians and/or cyclists who may be crossing the road. To maintain the effectiveness of these warning signs, they shall only be installed where the crossing point is not easily detected by an approaching driver due to sight restrictions.</p> <p>Warning signs should not be considered as a standard requirement for the installation of all refuges or walkthroughs. For specific requirements at median walkthroughs and refuges, see below.</p> <p>Pedestrian and bicycle warning signs are generally installed on the left side of the carriageway and may be duplicated on the right side of the carriageway on multi-lane roads. Where signs are duplicated, they shall be manufactured and installed to show the pedestrian symbol facing towards the road. For example, the W6-1(R) is installed on the left side of the road, and the W6-1(L) is installed on the right side of the road</p> | |
| <p>At median walkthroughs, the Pedestrians Warning Sign (W6-1) or Children Warning sign (W6-3) shall be used in advance of the walkthrough only where:</p> <ul style="list-style-type: none"> visibility is restricted, i.e. where the sight distance to the walkthrough is less than the stopping sight distance, or where the presence of pedestrians and bicycles may be unexpected <p>Where the median walkthrough connects shared paths and the above requirement for warning signs is met, the Pedestrian/Bicycle Warning Sign combination (W6-SA110 & W8-SA23) should be used instead of the W6-1 or W6-3 sign.</p> |  <p>W6-1</p>  <p>W6-3</p>  <p>W6-SA110 W8-SA23</p> |
| <p>At refuge islands, refer to AS 1742.10 Figure 9.1 and this Supplement for the use of warning signs.</p> <p>For arterial roads (as identified in the road category details in the <i>DIT Road Features file</i>) or high speed roads, AS 1742.10 Figure 9.1 Note 5 states: "Where refuges are used on arterial or high speed roads, pedestrians or children warning signs W6-1 or W6-3 (minimum size B) as appropriate, is provided together with supplementary plate REFUGE ISLAND (W8-25) in advance of the refuge". This is a mandatory signing requirement for refuges on these roads.</p> |  <p>W6-SA110 W8-25</p> |

| | |
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| <p>For other roads, the warning sign / REFUGE ISLAND (W8-25) combination should only be installed where:</p> <ul style="list-style-type: none"> • visibility is restricted, i.e. where the sight distance to the walkthrough is less than the stopping sight distance, or • where the presence of pedestrians and cyclists users may be unexpected <p>Where refuges are installed in series, or two refuges are closely spaced, warning signs may be used in advance of the first refuge only and omitted from subsequent refuges.</p> | |
| <p>The Pedestrian/Bicycle Warning (W6-SA110) sign should be used in conjunction with the Refuge Island (W8-25) sign where the above requirement for warning signs is met and the refuge island connects shared paths.</p> |  <p>W6-SA110 W8-25</p> |
| <p>Where a multi-user trail crosses the road and the requirements for warning signs in accordance with AS 1742.10 and this Supplement are met, the Pedestrians, bicycles, horses warning sign (W6-SA109) should be used instead of the W6-1 or W6-3 sign.</p> |  <p>W6-SA109</p> |
| <p>Clause 11.3.2(c) - Supplementary plates</p> | |
| <p>For use of the School Bus (W8-SA56) supplementary plate, refer to the Department's <i>Operational Instruction 10.2 – School Bus Stops on Rural Roads</i>.</p> | <p><i>ADDITIONAL INFORMATION</i></p> <p>Operational Instruction 20.2</p>  <p>W8-SA56</p> |
| <p>The 'Next' (W8-SA17-2) supplementary plate (fluorescent yellow green) may be used to supplement pedestrian related warning signs where the warning applies to a length of road (up to 300 metres), and installation of multiple individual warning signs is impractical.</p> |  <p>W8-SA17-2</p> |
| <p>The 'Hiking Trail' (W8-SA104) supplementary plate may be used with the W6-1 sign on rural roads where a recognised hiking trail crosses the road and there is documented evidence of regular pedestrian activity.</p> |  <p>W8-SA104</p> |

Section 13 - Lighting

ADDITIONAL INFORMATION

The Preface of *AS/NZS 1158.4 Lighting for roads and public spaces Part 4: Lighting of pedestrian crossings* states:

AS/NZS 1158.4

The function of lighting at pedestrian crossings is to illuminate the crossing, the immediate verge and any pedestrian at or on the crossing, so that the crossing and pedestrian are highly conspicuous to approaching vehicular traffic. Accident studies have shown that specifically lighting pedestrian crossings can significantly reduce the night accidents associated with them.

Considering the safety benefits for pedestrians, it would be preferable that lighting be provided at all crossings on Category V and P roads unless there are specific reasons not to install lighting. Nevertheless, whether a particular crossing, normally not controlled by traffic signals and generally of the type known and marked as a zebra crossing, will or will not be lit, will be determined by the road controlling authority.

Lighting complying with the requirements of *AS/NZS 1158 Lighting for roads and public spaces* shall be provided before a zebra crossing is fully installed and operational. A decision to not provide lighting at the crossing must be accompanied with a comprehensive risk assessment.

Pedestrian walkthroughs and refuges should be lit to a level of V3 as specified in *AS/NZS 1158.1.1* Table 2.1.

**AS/NZS 1158.1.1
Table 2.1**

Any kerb extensions installed for the purpose of reducing the crossing distance for pedestrians should be lit to a level of V3. The provision of kerb ramps from the footpath only (without a pedestrian refuge, kerb extension or walkthrough) require general road lighting or ambient light.

For further information refer to the Department's [RD-EL-D1 Road lighting design](#).

**DIT Master Spec
RD-EL-D1
Road Design Guide
LD001**

Appendix A - Model Instructions for Adult Supervisors at Crossings

DEPARTURE

Children's crossing monitors in South Australia must operate in accordance with the instructions and procedures provided in the approved training course conducted by South Australia Police. Refer Clause C of the *Minister's Notice to the Commissioner of Police* signed 5 July 2011.

Part 3. Appendices

Appendix A - Pedestrian and vehicle surveys

ADDITIONAL INFORMATION

These surveys are usually conducted for the continuous period from 8:00 am to 6:00 pm on a typical weekday, but may be extended if the time of peak pedestrian movement is outside that period.

The section of road under consideration is divided into zones of approximately 30 m in length.

The numbers of pedestrians categorised according to type (such as Adult / Adult with bike / Child / Child with bike / Older person / Person with a disability etc) crossing the road in each zone are counted and the totals recorded for each 15 minute period.

When the category includes 'bike', only those who cross the road are counted; not those riding along the road or footpath.

Young children, the elderly and people with a disability should be given greater recognition in the pedestrian surveys by weighing their numbers. The observed numbers of:

- a) children under 10 year old who are not accompanied by an adult,
- b) older people who may exhibit a degree of frailty or difficulty in crossing the road in a timely manner,
- c) people recognised as having a disability

should be weighted by being multiplied by a factor of 1.5.

NOTE: The weighting of children does not apply in the case of surveys undertaken for proposed koala crossings.

The number of vehicles travelling along the road is also recorded, by direction of travel, for each period.

In assessing the survey to decide whether a pedestrian crossing is justified and to determine its location, the numbers of pedestrians crossing the road in the same three adjacent zones in each of two separate hours are totalled. The combined two-way vehicle volume in each corresponding hour is used on roads without a median. If there is a median, subject to engineering judgement, the highest flow in one direction is used.

Appendix B - Guidelines and criteria for pedestrian crossings

ADDITIONAL INFORMATION

The following criteria and numerical guidelines may assist in assessing the demand for pedestrian facilities. Judgement should be used when applying these numerical guidelines to ensure the best overall pedestrian safety and traffic management solution for the site.

B1. General criteria

An assessment of pedestrian demand is important to determine the merits of providing pedestrian infrastructure, and the type of infrastructure. At locations where it is difficult to cross the road, a pedestrian survey (Appendix A) may not accurately represent the level of pedestrian demand to cross the road. Other means of identifying demand such as community consultation and support, or pedestrian demand forecasting (see Queensland's *TMR Guideline – [Pedestrian Demand Forecasting](#)*) may be used to determine pedestrian crossing demand.

The Movement and Place classification of roads may also assist in determining the need for and the appropriate type of crossing infrastructure. In some locations, operational requirements for traffic (higher “movement” classification) may need to be prioritised and therefore pedestrian movements will need to be managed through the use of signalised crossings, rather than crossing types which provide pedestrian priority at all times. Roads with a lower movement classification may have low speeds or low traffic volumes with create safe crossing opportunities without the need for a priority crossing.

For crossings on or adjacent to the Department's roads, the Department's Network Management Services should be contacted in the first instance to ascertain potential network performance impacts and operational requirements which may influence the selection of crossing type.

A detailed analysis of the site comprising consideration of factors such as approach speeds and intersection geometry, pedestrian crossing demand, sight distance, traffic modelling and road safety audit recommendations is required to determine the appropriate treatment. Consistency in the provision of treatments, e.g. across different legs of an intersection, or consistency with adjacent intersections, and how users will perceive these treatments, should also be considered.

At intersections and slip lanes, priority crossings (wombat crossings, zebra crossings or priority path crossings) will reinforce some (or all) of the existing priority afforded to pedestrians and cyclists under the road rules (e.g. vehicles turning to enter a road), however they may encourage pedestrians to be less cautious when crossing the road. Therefore it is important that they are used where sight distance requirements of Austroads *Guides to Road Design* are met (Approach Sight Distance and Crossing Sight Distance – see Austroads *Guide to Road Design Part 4* Section 8; and Safe Intersection Sight Distance, particularly for cyclist crossing facilities – see Austroads *Guide to Road Design Part 4A* Section 3), and that they are used at locations of significant levels of pedestrian/off-road cyclist activity so that drivers can reasonably expect to encounter pedestrians at these crossings. As approach speeds for cyclists or micromobility users using the crossing may be higher than pedestrians (see Austroads *Guide to Road Design Part 6A* Section 5.2), these must be taken into account when checking sight distance at the crossing.

B2. Mid-block crossings

B2.1 Pedestrian actuated crossing (mid-block)

Installation of pedestrian actuated crossing (PAC) may be appropriate where the conditions described below are met:

- a) A pedestrian survey, undertaken in accordance with Appendix A, or an assessment of pedestrian demand in accordance with Appendix B1, shows that:

In two separate one hour periods of a typical weekday:

- 60 or more pedestrians per hour cross the road and could reasonably be expected to use the crossing; and
- 600 or more vehicles per hour pass the site during the same two hours where the pedestrians cross; and
- the product of the number of pedestrians per hour and vehicles in the same hour exceeds 90,000

or

b) A koala crossing is justified (see B6 below) and:

- children frequently cross the road between two sections of a school at other times;
- there is a steady demand for the crossing by adult pedestrians; or
- it is considered desirable to link the crossing with other nearby traffic signals.

or

c) a detailed analysis and assessment in accordance with Appendix B1 indicates that it is the appropriate treatment.

B2.2 Pedestrian actuated crossing (mid-block) – on raised platform

In addition to the above criteria for a PAC, a PAC may be installed on a raised platform where the PAC is:

- a) located within a full time 40 km/h speed limit installed in accordance with the criteria for a 40 km/h speed limit in the *Speed Limit Guideline for South Australia*, or
- b) located within a 50 km/h speed limit installed in accordance with the criteria for a 50 km/h speed limit in the *Speed Limit Guideline for South Australia* and a detailed analysis of site and traffic conditions indicates additional safety measures are required. On 50 km/h roads, the extended platform design should be adopted to slow vehicles on approach to the crossing.

B2.3 Zebra or Wombat crossing (mid-block)

An on-street zebra or wombat crossing may be provided where a pedestrian survey undertaken according to Appendix A, or an assessment of pedestrian demand in accordance with Appendix B1, shows that:

- a) In two separate one hour periods of any day (including Saturday and Sunday):
 - 40 or more pedestrians per hour actually cross the road and could reasonably be expected to use the crossing; and
 - 200 or more vehicles per hour pass the site where the pedestrians cross during the same two hours;

or

b) During eight hours of any day:

- An average of 20 or more pedestrians per hour, cross the road (a total of 160 or more in eight hours) and could be reasonably be expected to use the crossing; and
- An average of 200 or more vehicles per hour pass the site during the same eight hours (a total of 1600 or more in eight hours);

or

c) a detailed analysis and assessment in accordance with Appendix B1 indicates that it is the appropriate treatment.

Zebra crossings have low speed environment and road geometry requirements – see the details in Clause 5.1 in this Supplement.

B3. Across side road intersections or at roundabouts

B3.1 Wombat crossing (across side road intersections or roundabouts)

On the Department's road network, a wombat crossing may be provided across a local access side road (i.e. to provide priority for pedestrians and cyclists travelling parallel to a main road) at an intersection or roundabout, where:

- a) it meets the above criteria for a mid-block wombat crossing, or
- b) a detailed analysis and assessment in accordance with Appendix B1 indicates that it is the appropriate treatment.

For wombat crossings across the main road, see criteria in Appendix B2.3 for mid-block treatments.

B3.2 Zebra crossing (across side road intersections or roundabouts)

On the Department's road network, a zebra crossing may be provided across a local access side road (i.e. to provide priority for pedestrians and cyclists travelling parallel to a main road) at an intersection or roundabout, where:

- a) they meet the above criteria in Appendix B3.1 for wombat crossings (across side road intersections or roundabouts); and
- b) there are physical measures to slow traffic speeds approaching the crossing to 30 km/h (e.g. radial design roundabout, road humps).

For zebra crossings across the main road, see criteria in Appendix B2.3 for mid-block treatments.

Zebra crossings have low speed environment and road geometry requirements – see the details in Clause 5.1 in this Supplement.

B3.3 Continuous footpath

This treatment is best suited to low vehicle volume, high pedestrian activity locations. See Clause 4.6.3 of this Supplement.

B3.4 Threshold treatments

Contrasting paving across a side road, either raised or at grade, may be used as a traffic calming or streetscaping treatment which may assist in slowing vehicles and highlighting the potential presence of pedestrians to drivers, however it does not alter the existing priorities under the road rules.

B4. Crossings at slip lanes

The appropriate crossing treatment at slip lanes should be determined through a detailed analysis and assessment in accordance with Appendix B1.

Treatment options at slip lanes are:

- Signal control with push-button provisions for pedestrians and cyclists (e.g. high movement classification roads)
- Wombat crossing (e.g. high place classification roads)
- Raised priority path crossing
- Uncontrolled crossing - see Clause 4.5(a)

Unless there is a pedestrian crossing demand on one side of the intersection only, or modelling indicates a need to control pedestrian movements across some approaches, all slip lanes at an intersection should be treated in the same manner.

Zebra crossings shall not be used on slip lanes, due to their low speed environment and road geometry requirements.

B5. Priority path crossing on raised platform

A priority path crossing on a raised platform may be provided where the above criteria for a wombat crossing is met (see Sections B2.3, B3.1, B4) but the adjoining path is a separated bicycle / pedestrian path.

B6. Children's crossing (koala)

A koala crossing may be installed if a pedestrian survey undertaken according to Appendix A, or an assessment of pedestrian demand in accordance with Appendix B1, shows that in two separate one hour periods of a typical school day:

- a) 50 or more children actually cross the road and could reasonably be expected to use the crossing; and
- b) 200 or more vehicles per hour pass the site where the children will cross during the same two hours.

B7. Children's crossing (emu)

An emu crossing has no minimum child/vehicle guide, however a pedestrian survey in accordance with Appendix A should assist in determining the crossing location.

B8. Pedestrian refuge

An initial assessment of the ease with which a pedestrian is able to cross the road should be conducted to assist in determining whether further investigation and treatment is required. The delay or Level of Service (LOS) experienced by a pedestrian waiting for a safe gap in a traffic stream based on the volume of traffic is the key factor in determining if pedestrians can safely cross a road. As traffic volumes increase, the number of gaps long enough for pedestrians to cross decreases, making it more difficult to cross and increasing delays to pedestrians. As volumes increase further, a point is reached at which there are few, if any, gaps of sufficient length for pedestrians to cross safely and delays become significant. This has two potential impacts:

- Pedestrians take risks by crossing in less than desirable gaps
- Pedestrians do not try to cross, or give up after waiting for some time – i.e. the road becomes an impassable barrier.

The gap required (or crossing time) for a pedestrian to safely cross the road is based on the width of traffic lanes required to be crossed in one movement and the pedestrian walking speed. A road divided by a pedestrian refuge stages the crossing into two movements, reducing the length of gap required for a pedestrian to safely cross each section of road. Austroads *Guide to Road Design Part 4: Intersections and crossings – general (2023)* Section 8.2.2 provides general guidance on vehicles volumes above which pedestrian delay may be excessive. Table B8.1 provides a more detailed analysis. It is considered that a maximum delay of 30 seconds for pedestrians who wish to cross a road is a reasonable time period and therefore a crossing facility is not generally warranted.

Once the peak hour traffic exceeds the volumes shown in Table B8.1, the delay for pedestrians is likely to increase beyond 30 seconds and additional pedestrian facilities should be considered.

The volumes in Table B8.1 were calculated using SIDRA Intersection 8.0 based on the following assumptions:

- pedestrian walking speed is 1.2 m/s
- all traffic lanes are equally utilised (i.e. all lanes assumed to have the same volume)

- all lanes are of equal width.

When conducting an initial assessment based on these tables, consider whether the above assumptions are applicable to the specific site.

It should be noted that SIDRA does not take into account the number of pedestrians as the analysis is based on available gap. The traffic volumes in the following tables are based on a maximum delay of 30 seconds for pedestrians which is equivalent to Level of Service D.

Given the same road width, the volume threshold for a two-lane, two-way road is lower than that of a four-lane, two-way road. This is attributed to the traffic volume being spread across more lanes, creating more crossing opportunities which result in a higher threshold for a four lane, two-way road.

Table B8.1 - Maximum volumes for Level of Service D for pedestrian crossing delay

Two-lane, two-way road:

| Total road width (m) | Maximum volume (veh/hr) | |
|----------------------|-----------------------------|---------------------------|
| | Undivided road ¹ | Divided road ² |
| 6 | 1560 | 3536 |
| 7.2 | 1290 | 3184 |
| 8.4 | 1087 | 2854 |
| 9.6 | 929 | 2564 |
| 10.8 | 804 | 2310 |
| 12 | 704 | 2090 |

Four-lane, two-way road:

| Total road width (m) | Maximum volume (veh/hr) | |
|----------------------|-----------------------------|---------------------------|
| | Undivided road ¹ | Divided road ² |
| 12 | 744 | 2504 |
| 13.2 | 653 | 2238 |
| 14.4 | 578 | 2014 |
| 15.6 | 516 | 1820 |
| 16.8 | 463 | 1656 |
| 19.2 | 380 | 1384 |
| 21.6 | — | 1176 |
| 24 | — | 1010 |

NOTES:

- ¹ If the peak hour volume is greater than the maximum volume indicated in the table for an undivided road, consider treatments such as narrowing the road width with kerb extensions or a pedestrian refuge.
- ² If the peak hour volume is greater than the maximum volume indicated in the table for a divided road, consider treatments such as narrowing the road width with kerb extensions or providing pedestrians with a priority crossing. However, if the peak hour volume is less than the maximum volume indicated in the table for a divided road, consider the provision of a pedestrian walkthrough.

Appendix C - Children's crossing - Koala crossing

ADDITIONAL INFORMATION

C1. Purpose and safe operation

A koala crossing is a type of children's crossing which is a part-time facility catering primarily for school children. It is only in operation when the twin alternately flashing yellow lights at the crossing are flashing. (ARR 80(6))

The existence of pedestrians on or entering the crossing imposes a legal obligation on drivers to stop and not enter the crossing until all pedestrians have cleared the crossing. (ARR 80(2) and ARR 80(4))

A 25 km/h speed limit applies when the lights are flashing.

See Section C6 and C7 of this Appendix for time of operation of the crossing.

C2. Description

Koala crossing shall comprise of the following items:

- a) **Stop lines (SL)**, refer to AS 1742.2 and Sections 2.1.2.1 and 3.3.24.3 of the Department's *Pavement Marking Manual*
- b) A **marked crosswalk** comprising of **two parallel pedestrian guide lines (PL)**, refer to AS 1742.2 and Sections 2.1.2.3(a) and 3.3.24.3 of the Department's *Pavement Marking Manual*
- c) **No Stopping (R5-36)** signs for control of parking near the crossing during the times the crossing is in operation. The lengths of the no stopping zones shown in Figure C1 are the minimum set out in the Road Rules (ARR 171). These lengths may need to be extended to ensure there is adequate sight distance between approaching drivers and pedestrians about to use the crossing.

R5-36 (7 am to 5 pm School Days) may be used as an alternative to the R5-36 (no times School Days) to allow parking at other times. A full time no stopping restriction (R5-35) may be used if there is a need to prohibit stopping on this section of road at all times.
- d) The **Hand STOP Banner (R6-7)**, which is used by a crossing monitor when in attendance. The double-sided hand-held stop banners (R6-7) used at monitored crossings shall be 375 mm in diameter and mounted on a handle 1.8 m to 2.2 m in length (measured to underside of the R6-7 sign).
- e) **Twin alternately flashing yellow signals** at the crosswalk position on both sides of the roadway displayed to indicate that the crossing is in operation. Each signal has two lanterns with two yellow alternating flashing aspects on a matt black backing plate.
- f) The **Children Crossing 25 km/h When Lights Flashing (R3-SA56)** sign. These signs shall be installed 30 m to 50 m before the crosswalk lines of each approach to the koala crossing. On arterial roads, the sign shall be 'B' size and duplicated. For most local streets, a single 'A' size sign on each approach is sufficient.
- g) **Flashing signal pedestal posts painted in red and white alternate 300 mm bands**. Refer Department's *Standard Drawing S-4537 Sheet 3*. Additional posts painted in red and white alternate 300 mm bands to delimit, along with the flashing signal pedestals, both ends of the crosswalk, may also be installed.

- h) A **speed limit (R4-1, or R4-10** if the koala crossing is located within an area speed limit) sign beyond the crossing to end the speed zone created by the R3-SA56 sign. **The R4-1 sign may be omitted where the crossing is located on a road which terminates at a T-intersection and the crossing is located within 50 m of that T-intersection, as the koala crossing speed limit ends where the road terminates.**

C3. Requirements for installation

The following conditions shall be met for the installation of koala crossings:

- a) No more than one lane of moving motor vehicle traffic in any one direction shall be encountered by a pedestrian using the crossing.

Lane widths at the crossing should be minimised to reduce the crossing distance for pedestrians and promote lower speeds at the crossing. Refer to the Austroads *Guide to Road Design Part 3 Geometric Design*, and Austroads *Guide to Traffic Management Part 8: Local Street Management* for guidance on lane widths for the speed environment and function, and consideration of cyclist squeeze points.

Where kerb extensions are impractical to achieve the desired lane widths, a raised median or painted median supplemented with pavement bars, may be installed.

If a koala crossing is to be monitored during periods of high concentration of use by children, the monitors shall be trained by Police. For details, see Appendix D in this supplement. The use of monitors does not vary the geometric requirements for the maximum number of travel lanes at the crossing.

- b) There shall be adequate sight distance between approaching vehicles and pedestrians about to use the crossing for any driver to be able to stop in time to give way to a pedestrian. Kerb extensions, see Clause 9.3 of *AS 1742.10* and this supplement, may be required to achieve this sight distance where kerbside parking is frequent.

Installation of parking zones adjacent to an emu or koala crossing shall ensure that a sight triangle remains unobscured by parked cars, landscaping or street furniture. For the sight distance requirements at crossings, refer to Section 3.3 of Austroads *Guide to Road Design Part 4A: Unsignalised and Signalised Intersections (2017)* and Section 8.2.2 of Austroads *Guide to Road Design Part 4: Intersections and Crossings – General (2017)*. Installation of parking control signs which vary the minimum no stopping distances contained in the Australian Road Rules are only permitted where sight distance requirements are met.

- c) The speed limit on approach to the crossing shall be 60 km/h or less

NOTE: The above requirements need to be met before a crossing is installed. They are not warrants for the provision of the crossing. For South Australian guidelines for the provision of koala crossings, see Appendix B in Part 3 of this Supplement.

If any of these requirements are not met, pedestrian actuated signals (PAC) may be required.

Koala crossings are not intended to operate outside of daylight hours as the road lighting is likely to be insufficient for the safe operation of the crossing.

As a koala crossing only provides pedestrian priority on a part-time basis, a koala crossing shall not be installed on a raised platform, and therefore the Raised Crossing (W8-31) sign shall not be used at a koala crossing. Where a crossing on a raised platform is required, consideration should be given to installation of a wombat crossing instead.

C3.1. Separation between koala crossings and school zones on the same road:

Where an emu crossing and a koala crossing are installed on the same section of road, the koala crossing, and the school zone (required for the emu crossing) must be separated by a minimum of 100 m. This is because the 25 km/h speed limits associated with the koala crossing and the school zone operate under different conditions, and each has separate signing requirements.

NOTE: ARR Rules 21 and 23 refer to the ending of a speed zone with a speed limit sign “with a *different number* on the sign” (i.e. not a speed limit sign with the same number and a different time or condition), hence the above requirement for separation between the two treatments.

Refer to the Department’s *Speed Limit Guideline for South Australia* for details of school zones.

C4. Signs

C4.1. Regulatory signs

The following signs are used at koala crossings as specified in Section C2:

- No Stopping (R5-36)
- Hand STOP Banner (R6-7)
- CHILDREN CROSSING 25 WHEN LIGHTS FLASHING (R3-SA56)



R5-36



R6-7



R3-SA56

No other sign shall be displayed in the immediate vicinity of the koala crossing.

C4.2. Advance warning and enhanced signs

The following signs may also be used at koala crossings as specified below:



W8-SA114



G9-SA134



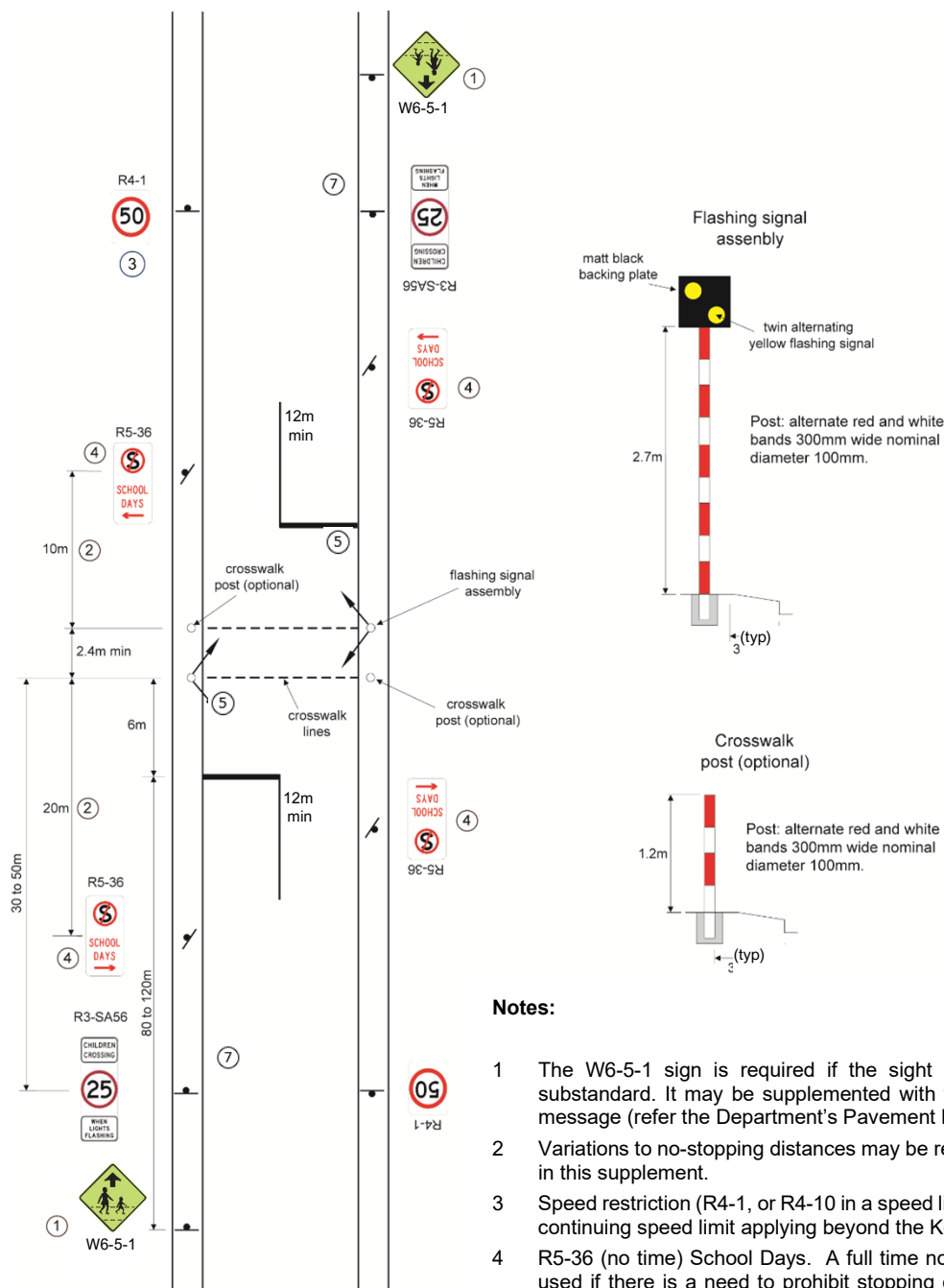
R3-SA57

- Where advance warning of the koala crossing is required, the **Children’s Crossing Ahead (W6-5)** series sign shall be used as described in Clause 11.2(d). Where the crossing is located in townships near interstate borders and interstate drivers may be unfamiliar with koala crossings, the **School Crossing Ahead (W8-SA114)** sign may be used to supplement to W6-5 sign.

- A **Children Crossing on Side Road (G9-SA134)** sign should be installed on a side road where the crossing is present on an intersecting road and the intersection is located either within the 25 km/h zone, or within 40 m of the start of the 25 km/h zone. This is the preferred alternative to the common practice of installing an R3-SA56 sign on the side road as advance warning.
- A **Children Crossing 25 When Lights Flashing with Fluoro Yellow Green backing (R3-SA57)** sign may be used in place of the R3-SA56 signs where there are no sight distance restrictions to the R3-SA56 signs however due to the nature of the surroundings or the lateral placement of the signs (e.g. on wide roads) the signs are not conspicuous to approaching drivers. The A size version of this sign may be used in place of the B size version of the R3-SA56.

C5. Typical layout

A typical layout for a midblock koala crossing is shown in Figure C1:



Notes:

- 1 The W6-5-1 sign is required if the sight distance to the crossing is substandard. It may be supplemented with the "School Xing" pavement message (refer the Department's Pavement Marking Manual)
- 2 Variations to no-stopping distances may be required, see C2(c) and C3(b) in this supplement.
- 3 Speed restriction (R4-1, or R4-10 in a speed limit area) signs indicating the continuing speed limit applying beyond the Koala crossing speed zone
- 4 R5-36 (no time) School Days. A full time no stopping restriction may be used if there is a need to prohibit stopping on this section of road at all times. R5-36 (7am to 5pm) School Days may be used as an alternative to allow parking at other times.
- 5 Kerb extensions may be required, see C3(b) in this supplement, AS 1742.10 Clause 9.3 and the variation to Clause 9.3 in this supplement.
- 6 Where the crossing is installed on a one-way road, the traffic control devices not applying to the direction of travel should be omitted
- 7 On arterial roads, the R3-SA56 sign shall be 'B' size and duplicated. For most local streets, a single 'A' size sign on each approach is sufficient. The R4-1 sign shall match the size of the R3-SA56 sign.

Figure C1 - Koala Crossing Details

C6. Times of operation - automatic

The times of automatic operation of a koala crossing are tailored to the normal pattern of demand for children crossing the road. Koala crossings shall only operate on school days.

C6.1. Morning operating period

The morning operating period should commence approximately ten minutes earlier than either:

- (a) the earliest arrival time permitted by the school; or
- (b) the normal first arrivals of children wishing to cross.

Operation should cease approximately five minutes after the school starting time but may cease earlier if the crossing is some distance from the school.

C6.2. Afternoon operating period

The afternoon operating period should commence approximately five minutes before the school finishing time (later if the crossing is some distance away).

Operation should cease approximately ten minutes after the time when sustained use of the crossing by children is normally over.

C6.3. Additional operating periods

Additional operating periods may be justified if different times apply to some parts of the school and there is a significant demand for children to cross the road.

Only rarely will a koala crossing need to operate at lunchtime.

C7. Manual operation

Each koala crossing has a two-position key switch, marked AUTO and MANUAL, for which the school's Principal has a key. With this key, the crossing can be switched from the automatic times preset on the time clock to manual operation. This allows a crossing to be used occasionally such as early dismissal for hot weather or end of term.

A koala crossing operating outside normal times may be confusing to drivers. Consequently, crossings operating at unexpected times are generally less safe than normal, and the following conditions shall be strictly observed whenever a crossing is operated manually:

- (a) The period of manual operation shall be within normal school hours.
- (b) The period of manual operation shall be as short as is practicable while catering adequately for the crossing needs of the children.
- (c) During the entire duration of manual operation, a member of the school staff or other adult person, authorised by and under the direction of the Principal, shall be responsible.

Appendix D - Children's crossing monitors

ADDITIONAL INFORMATION

Children's crossings should, except where it is not reasonably practicable, be supervised by monitors during periods of greatest concentration of use by children.

Factors which may render supervision by monitors impracticable include:

- (a) Where a crossing is not within reasonable walking distance of the school, taking into account of the need for the monitors to collect hand STOP banners and safety vests from the school.
- (b) Where a primary school has no grade higher than year five.
- (c) Where a crossing is used only by high school children, and not by primary school children.

Although a children's crossing which is not monitored provides assistance for children crossing a road, the risk is further reduced when the crossing is supervised by properly trained monitors. The presence of monitors also inhibits the particularly risky behaviour of children crossing the road near a crossing but not actually on it. A relatively brief period of supervision by monitors can provide additional protection for most of the children using the crossing.

Pedestrians of any age shall obey the directions of a monitor. Clause C of the *Minister's Notice to the Commissioner of Police* grants approval for the Commissioner to authorise School Crossing Monitors to use STOP banners, barrier devices and CHILDREN CROSSING flags.

Further requirements for children's crossing monitors are specified in Clause C of the *Minister's Notice to the Commissioner of Police*.

Monitors shall be trained by the SA Police Department and shall wear appropriate safety clothing designed to make them conspicuous and to warn road users of their presence.

Appendix E - Bicycle lane treatment on approach to on-street zebra crossing

ADDITIONAL INFORMATION

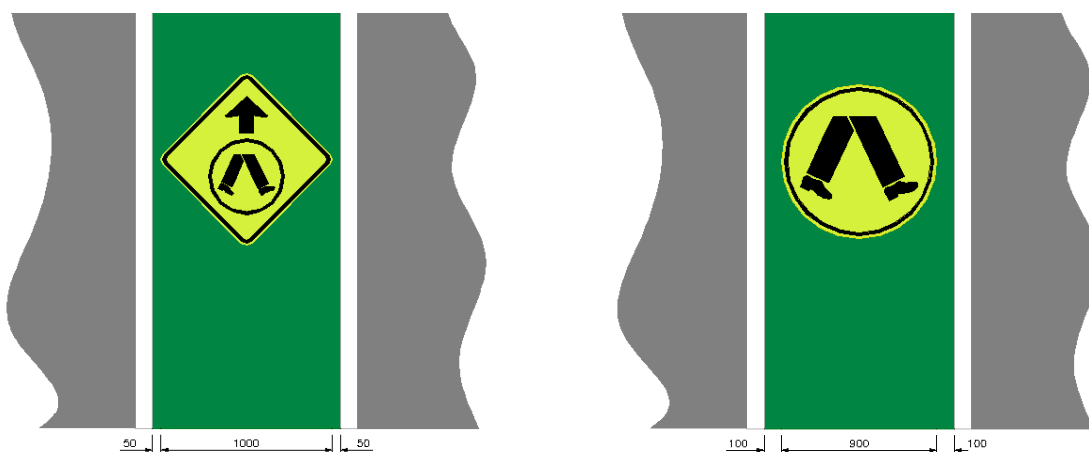
The line marking of the bicycle lane shall not be marked through a zebra crossing. A gap of 1 m from the parallel white stripes of the crossing shall be provided.

The width of the bicycle lane may be a minimum of 1 m on the approach to the zebra crossing, and the other lane should be 2.7 m wide or less to maintain the low speed environment.

Advance warning of the zebra crossing shall be provided in the bicycle lane in the form of pavement marking of the Pedestrian Crossing (R3-1) symbol, and either the Pedestrian Crossing Ahead (W6-2) symbol or the words "[Ped Xing Ahead](#)".

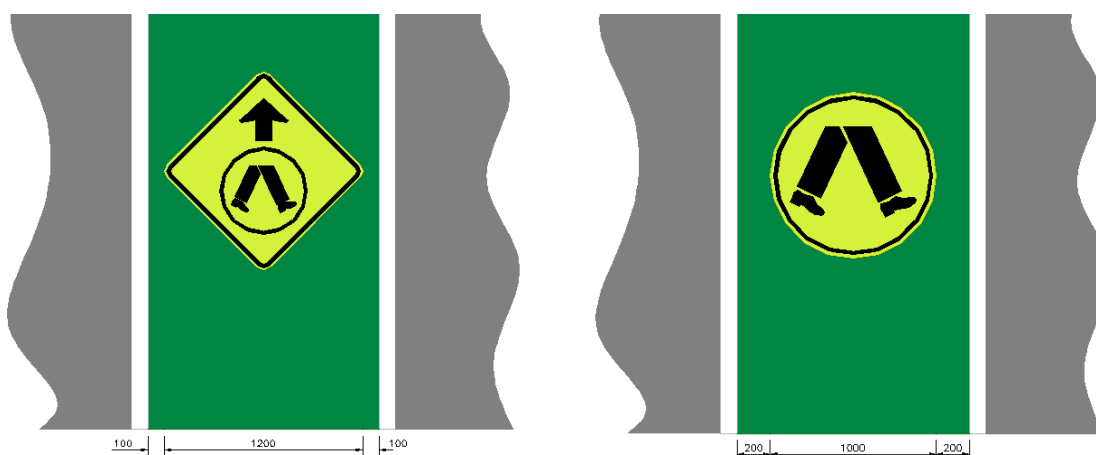
The W6-2 or "Ped Xing Ahead" pavement marking shall be installed 24 m in advance of the crossing. The R3-1 pavement marking shall be installed 4 m in advance of the crossing.

Dimensions of the W6-2 and R3-1 symbols are shown in Figures E1 and E2 for varying widths of bicycle lane.



NOTE: Green coloured pavement in this figure is for illustrative purposes only and is not a mandatory requirement for bicycle lanes on the approach to zebra crossings.

Figure E1: W6-2 and R3-1 pavement symbols for 1.2 m bicycle lane



NOTE: Green coloured pavement in this figure is for illustrative purposes only and is not a mandatory requirement for bicycle lanes on the approach to zebra crossings.

Figure E2: W6-2 and R3-1 pavement symbols for 1.5 m bicycle lane

These pavement markings shall be skid and slip resistant to the requirements of *AS 4049 Paint and related materials – Pavement marking materials* and the *Pavement Marking Manual* so as not to cause a hazard for road users. Pavement marking shall comply with the Department's *Master Specification Parts RD-LM-S1* and *RD-LM-C1*.

As the pavement marking symbols are intended to replicate the R3-1 and W6-2 warning signs, the colour of the pavement marking should match the *AS 1906* Fluorescent Yellow Green sign colour. Pantone 396C is considered to be a suitable match. If the symbol is produced with pavement marking paint in accordance with the Department's *Master Specification, Part RD-LM-S1* the use of *AS 2700* Golden Yellow (Y14) is permissible.

Appendix F - Providing priority pedestrian / cyclist treatments across side roads

ADDITIONAL INFORMATION

A summary of treatments, road rules and examples for providing priority for pedestrians (and cyclists) across side roads is provided below.

Criteria for use of crossing treatments are provided in Appendix B in Part 3 of this Supplement.

F1. Priority under the Australian Road Rules

Many of the *Australian Road Rules* relating to intersections require that a driver turning left or right give way to a pedestrian on or crossing the road that the driver **is entering**.

Australian Road Rule 353(1) further states:

*If a driver who is turning from a road at an intersection is required to give way to a pedestrian who is crossing the road that the driver is entering, the driver is only required to give way to the pedestrian if the pedestrian's line of travel in crossing the road is essentially perpendicular to the edges of the road the driver is entering — **the driver is not required to give way to a pedestrian who is crossing the road the driver is leaving.***

Regulations 9A and 9B of the Road Traffic (Road Rules - Ancillary and Miscellaneous Provisions) specifies the rules where a reference to a pedestrian is taken to include a reference to a rider of a bicycle.

A threshold treatment consisting of contrasting or decorative paving across a side road, either raised or at grade does not alter the existing priorities under the road rules. It may assist in slowing vehicles, and highlighting the potential presence of pedestrians to drivers.

Examples:

[Rose St, Prospect](#), [Lily St, Goodwood](#), [Beulah Road, Norwood](#)

Where it is desired to require drivers **entering and leaving** a side road to give way to pedestrians (and cyclists) across the side road, the treatments identified below may be used.

F2. Wombat Crossing

See AS 1742.10 Section 5 and the variations and additions in this Supplement.

Examples:

[Main Road, McLaren Vale \(Coast to Vines shared path crossing\)](#), [Bonython Park access / Port Road, Adelaide \(shared path\)](#); [Jetty Street, Grange](#);

F3. Raised crossing with Give Way signs (Rule 71)

See AS 1742.10 Section 6 and the variations and additions in this Supplement.

Examples:

[Franklin Avenue / Main South Road, Bedford Park \(separated pedestrian / bicycle path\)](#), [Riverside Drive / Main South Road, Bedford Park \(separated pedestrian / bicycle path\)](#), [Wylde Street, Adelaide \(shared path\)](#), [Plane Tree Drive / Hackney Road, Adelaide \(shared path\)](#),

F4. Continuous Footpath Treatment

See AS 1742.10 Clause 4.6.3 and the additional information in this Supplement.

Appendix G - Extract from VicRoads Road Design Note 03-07 – Raised Safety Platform

ADDITIONAL INFORMATION

Road Design Note 03-07 - Raised Safety Platforms (RSP)

6. Design guidance

6.1. Profile

The following section outlines the components of a RSP and the recommended dimensions for a range of scenarios. These dimensions align with guidance provided in Austroads Guide to Traffic Management (2008)^{3,9}.

6.1.1. Shape

RSPs must adopt a flat top profile, as depicted in figure 2. Watts, Sinusoidal or other ramp shapes are not to be used (ARRB 2014).

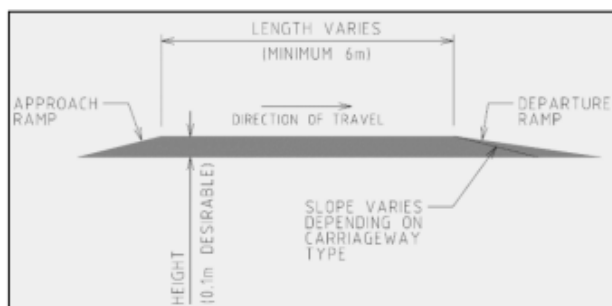


Figure 2: Typical RSP Shape

RSP ramps must be flat with a consistent grade between the top and bottom of the ramp. Where a RSP is located on an undivided carriageway (e.g. a typical Raised Intersection site), the approach and departure ramp grades will be uniform.

6.1.2. Platform height

- Desirable height = 100mm
- 75mm may be considered where site constraints and traffic composition suggests a lower height profile is suitable (e.g. high truck volume routes). Refer to section 6.5 for heavy vehicle consideration
- Ramp heights < 75mm are not effective at reducing speeds and should not be considered
- 150mm may be used for low speed (< 50km/h) and low traffic volume environments, however, platforms > 100mm in height may damage low-floor vehicles and are not recommended on arterial roads.

6.1.3. Platform length

The flat section (i.e. the plateau) of a RSP must extend a minimum of 6m in length to store a standard passenger vehicle, including when used as a pedestrian crossing.

When raising an entire intersection, this length will of course extend significantly to encompass the intersection footprint.

“Where a RSP is located on an undivided carriageway, the approach and departure grades will be uniform”

6.1.4. Ramp grade on approach

The recommended approach ramp grades to achieve Safe System speeds are detailed in Table 1. These grades are designed to optimise the likelihood of vehicles slowing to the desired speed when entering an intersection, while minimising undue occupant discomfort, risk of heavy braking or vehicle damage.

Table 1: Recommended ramp grades for various speeds

| Operating Speed (km/h) | Divided Carriageway | | Undivided Carriageway | |
|------------------------|---------------------|-------------------------------|-------------------------------|-------------------------------|
| | Approach Ramp Grade | Comfortable Max. Speed (km/h) | Approach/Departure Ramp Grade | Comfortable Max. Speed (km/h) |
| 50 | 1:15 (6.7%) | 30* | 1:20 (5%) | 40 |
| 60 | 1:20 (5%) | 40 | 1:25 (4%) | 50 |
| 70 | 1:25 (4%) | 50 | 1:25^ (4%) | 50 |

Note: *Max. survivable speed for a pedestrian or cyclist related crash
^May result in increased motorist discomfort, consult VicRoads SSE Team for further guidance
- RSP should achieve an equivalent change in grade if longitudinal grade of site is not flat
- Refer VicRoads Supplement to Austroads Guide to Road Design Part 3 for the definition of 'operating speed'

Easing of ramp grades below values listed in Table 1 may be considered to accommodate certain road users, such as heavy vehicles, emergency vehicles, buses, bicycles or low floor vehicles. This should be balanced against the extent of speed reduction required for the majority of road users and vehicle types – i.e. adopting a reduced grade to accommodate a particular user type may result in the majority of users being able to traverse a RSP relatively comfortably, thus reducing effectiveness.

It is important to take into consideration the existing longitudinal grade of a road when constructing RSP ramps. Values contained in Table 1 assume RSPs are installed on a flat terrain (example provided in figure 3).

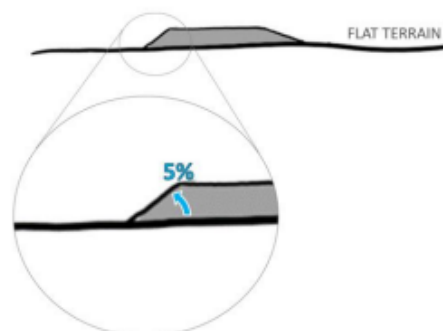


Figure 3: RSP Grades for Flat Terrain