Guide to Appointed School Bus Stops





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Introduction

The NSW Government established the School Bus Safety Community Advisory Committee in April 2011 to examine school bus safety in rural and regional NSW.

The Committee's Report, released in October 2012, provided 35 recommendations with the aim of identifying opportunities for improvement in school bus safety. While all of the recommendations relate to school bus safety, this document has been developed in relation to Recommendation 18.

Recommendation 18

That TfNSW and RMS develop a standard methodology for fixed Rural Bus Stop Locations/Design, with reference to existing "best practice" examples, for use by Local Councils.

In December 2016, NSW Centre for Road Safety (CRS) issued guidance on 'informal' school bus stops. Most school bus stops in rural and regional areas are informal school bus stops in that they are not permanent (or fixed) and are not signposted. *Advice for choosing locations of informal school bus stops* is available from CRS. http://roadsafety.transport.nsw.gov.au/downloads/advice-for-choosing-locations-of-informal-school-bus-stops.pdf

The Guidelines have been prepared in consultation between Transport for NSW (TfNSW) and Roads and Maritime Services (RMS).

Purpose

This guide aims to assist Council and RMS staff in determining appropriate locations, layouts and features for appointed or 'fixed' school bus stops.

Scope

Any appointed bus stop regularly used by school children should be considered to be an appointed school bus stop and this guide should be applied.

This guide is relevant to school bus stops in both urban and rural areas and on both Council and RMS managed roads.

This guide does not provide regulations and requirements for bus stops situated at schools and school zones, or a 'school bus stop zone' as described in NSW Road Rules 2014 21-1.

Appointed bus stops are sometimes referred to as 'fixed' or 'formal' bus stops.

Additional information

More information on the School Bus Safety Community Advisory Committee and its recommendations can be found at <u>Transport for NSW</u>:

• <u>2012 School Bus Safety Community Advisory Committee Inquiry into Rural and Regional School Bus Safety in NSW Report</u>

1 Types of bus stops, legislation and approvals

Bus operators or TfNSW nominate and appoint bus stops. Bus stops require approval by the relevant roads authority. An appointed bus stop has one or more 'bus zone' or 'bus stop' signs. Appointed bus stops are sometimes established solely for school buses but are usually also used for other route services. Appointed bus stops are also known as 'fixed bus stops'.

Bus zones are used where the availability of kerb space may be limited due to the demand for on street parking or where several buses are likely to use a bus stop at the same time. Regulatory signs are often provided to define the bus zone length and reinforce parking restrictions.

Bus drivers may use 'informal' bus stops, where there is no appointed bus stop, in accordance with clause 93 of the Passenger Transport (General) Regulation 2017. These stops are not referred to as 'informal bus stops' in any legislation, but the term distinguishes them from formally appointed bus stops and sign-posted bus zones.

Many Councils form local traffic committees to review safety and traffic related matters on Local roads.

School bus stop zones are a special speed limit zone, used on a length of road where the speed limit is indicated by the zone signage. The school bus stop zone speed limit is only active while the warning system of a bus is operated (Road Rule 21-1).

1.1 NSW legislation on bus stops

For latest NSW legislation, see legislation.nsw.gov.au

The following Acts and Regulations contain sections relevant to location of bus stops:

- Roads Act 1993 No 33; defines roads authorities
- Passenger Transport (General) Regulation 2017, Section 104 (1) and (2); provides regulation and approval responsibilities regarding appointing of bus stops
- Passenger Transport (General) Regulation 2017, clause 93; provides allowances for buses to stop along routes where there are no sign-posted bus stops
- Section 87 of the Roads Act 1993 describes using traffic control devices such as traffic signals, sign posting and line marking
- Road Transport Act 2013 provides for the system of traffic regulation, governs the use of roads and provides the regulatory tools necessary to manage the road network safely and efficiently
- NSW Road Rules 2014 describe regulations around school bus stop zones, and stopping regulations
- Signs indicating a bus stop are authorised by clause 104 of the *Passenger Transport (General)*Regulation 2017

RMS has overall responsibility under the Road Transport Act for administering the system of traffic management. RMS has delegated to Local Councils the ability to install some "prescribed traffic control devices". Prescribed traffic control devices, which include Bus Zone signs, are described in the NSW Road Rules 2014. The Road Rules are statutory rules under the Road Transport Act.

1.2 Approval of bus stops

TfNSW or a bus operator may appoint bus stops.

The roads authority for the road approves appointed bus stops. The approval of the roads authority is required whether appointed by TfNSW or a bus operator.

The roads authority in NSW is the Local Council with the following exceptions:

- RMS is the roads authority for freeways
- The Minister is the roads authority for Crown roads

 Roads otherwise declared by the Regulations (e.g. some surface roads surrounding Sydney road tunnels declared as tollways)

Even on RMS managed roads (except freeways), bus stops require council approval; approval of bus stops is a roads authority function that has not been adopted by RMS.

Bus stop signs are regulatory signs but are not prescribed traffic control devices and can be approved by local councils without reference to local traffic committees.

Informal bus stops are not signposted as bus stops and do not require roads authority approval.

1.2.1 Approval of bus zone signs

RMS has authorised Local Councils to use bus zone signs on Council managed roads under its *Delegation to councils for the regulation of traffic*. Before exercising this authority, Councils are required to refer to their local traffic committee for advice on the intended use of any prescribed traffic control device.

Bus zone signs on State Roads must be authorised by RMS.

1.3 The role of local traffic committees

Local traffic committees comprise four members – representatives from Council, Police, RMS, and the local state Member of Parliament or their nominee. The main role of a local traffic committee is to provide technical advice and recommendations in relation to implementation of prescribed traffic control devices. Bus zone signs are prescribed traffic control devices.

Local traffic committees can also provide less formal advice on other traffic and safety matters, including school bus stops. The local traffic committee is an advisory body only, having no decision making powers. It is a technical review committee that is required to advise the council on traffic related matters referred to it by Council.

If a Council intends to act against a local traffic committee recommendation for traffic control devices, Police or RMS representative on the committee can appeal to the regional traffic committee. Advice on other road safety and traffic matters is not subject to the appeal process.

Further information:

- Guidance on the role and operation of local traffic committees can be found in <u>Guidelines on the Delegation including the operation of Traffic Committees</u>
- Centre for Road Safety provides information on managing safety around schools
- Information on local traffic committees from Roads and Maritime

2 Design references for bus stops

The Austroads Guide to Road Design and associated RMS supplements are the principal road design references used in NSW.

Sections with specific references to bus stops include the following:

- Austroads Guide to Road Design Part 3: Geometric Design. The 2016 update includes a section on bus stops with design references and guidance on urban and rural bus stops
- Roads and Maritime <u>Supplement to Austroads Guide to Road Design Part 3</u> includes information on bus stop design, with a reference design for rural bus stops
- Austroads provides guidance for road layouts and other considerations for locating and detailing bus stops in Guide to Road Design Part 4: Intersections and Crossings - General

This guide includes additional references at relevant points in the text.

2.1 The bus design envelope

NSW State Transit Authority provides guidance in an urban context, with particular detail on the 'bus envelope' and design considerations for the kinds of buses used on metropolitan network. *State Transit NSW, Bus Infrastructure Guide, 2011* is a useful reference for road safety practitioners and designers in regional areas.

2.2 Providing for people with disabilities

Austroads Guide to Road Design Part 3: Geometric Design, Section 4 notes that:

"In Australia all new bus stops must now comply with the requirements of the Disability Discrimination Act 1992, and any other road agency or transport agency disability standards."

And:

"In Australia the provision of a hardstand area is considered to be a basic requirement for all new or upgraded bus stops in accordance with the Disability Discrimination Act 1992."

Further information:

- Information on the <u>Disability Standards for Accessible Public Transport 2002 (Cth)</u> can be found at Department of Infrastructure, Regional Development and Cities
- TfNSW <u>Disability Inclusion Action Plan 2018-2022</u> provides information on standards and NSW compliance requirements
- The Australian Human Rights Commission has published <u>Guideline for promoting compliance of bus</u> stops with the Disability Standards for Accessible Public Transport 2002

3 Best practice considerations

A safe system approach to road safety involves consideration of all elements of the road transport system:

- The road environment
- Road users
- The speed limit
- Vehicles

A safe system approach uses several layers of risk management, so that if one part of the system fails, other parts serve to reduce the risk of accidents and minimise harm in the event of an accident. Core to minimising harm, is to minimise the energy in collisions that occur.

Attention to all of the elements and their interrelationships is critical to minimise risks and harm. As an example, even with very good road conditions, a bus can block sight lines between school aged pedestrians and motorists when pedestrians and approaching motorists are making important decisions; the flashing lights on the school bus highlight the risk to motorists, but safety ultimately depends on elements of the system working together.

In the context of managing the safety of school children at appointed school bus stops, the safe system approach requires consideration of the following:

- The road environment and opportunities to reduce risks and conflicts
- The behaviour and vulnerability of children and other pedestrians
- The behaviour of motorists
- The speed environment and the speed around stopped school buses
- The movements of vehicles near bus stops

3.1 Removing conflicts and risks

Appointed school bus stops, whether in urban or rural areas, are likely to have a higher level of use by bus passengers than informal school bus stops, and will generate more pedestrian and vehicular traffic. They may also be an interchange location for passengers to change from one service to another. Appointed school bus stops are also more likely to be on roads with higher traffic volumes and are often on high speed roads. These traffic environments can present a high level of risk for school aged and other pedestrians.

The best safe system approach to pedestrian safety at a specific road location is to remove interaction with vehicles. This can sometimes be achieved by the following:

- Separating the bus stop from the road architecture, by relocating the bus stop, or creating separated bus stop architecture
- Separating bus stops from through traffic or vice versa
- Having children embark and disembark on the same side of the road, and close to their intended destination. Loop bus routes, where children can stay on a bus and board or disembark without the need to cross a road might achieve this
- Routing buses down side roads rather than stopping on high speed or high traffic volume roads, removing the need to cross the high speed or high traffic volume road
- Dedicated controlled or separated crossing areas

Establishing bus routes is not a matter for roads authorities; however Council and RMS staff should suggest such these approaches where they are feasible. Councils and RMS may be in a position to undertake physical works to improve the intersection geometry or road alignment along road lengths to make these safe system approaches more feasible.

3.2 Behaviour of children and other pedestrians

Children are vulnerable road users. They are still developing the skills that help them to judge the direction of sound and the speed and distance of vehicles. They are physically small, making it harder for drivers to see them. They may be easily distracted and tend to only be able to focus on one thing at a time. This means that they find it difficult to deal with sudden changes in the traffic environment.

CRS recommends that up until at least 10 years old, a parent or carer should supervise a child very closely, holding their hand when crossing the road.

Parental guidance on appropriate behaviour is supported by school-based education for children in NSW schools. As a further influence, bus drivers have a protocol to warn school children about traffic at their stop. The following should be considered in a safe systems approach:

- Supervision of young children may not always be available
- The behaviour of young children can be very unpredictable
- The behaviour of older unsupervised school children can also be unpredictable
- Parents require safe conditions in order to access bus stops
- All pedestrians, regardless of age, are vulnerable road users in terms of the likelihood of a severe outcome in the event of a collision

While education and advice on appropriate road user behaviour has a clear role in reducing risks, the potential for unpredictable behaviour and the high vulnerability of school aged pedestrians in the event of a collision increases the need to complement road user education with other approaches.

3.2.1 Road safety education resources

CRS provides information and resources for staying safe around schools. It funds *Kids and Traffic*, the Early Childhood Road Safety Education Program, and the Road Safety Education Program. Road safety is taught in the learning area of Personal Development, Health and Physical Education (PDHPE). All students in NSW study PDHPE from Kindergarten to Year 10.

<u>Safety Town</u> is a road safety education resource for teachers, students and families. It is both a school-based teaching resource and a source of information for parents and carers on the behaviour of children and what parents can do to contribute to their safety. It provides a variety of interactive learning activities for students from Kindergarten to Year 6.

On the Move houses resources for secondary schools. The website has road safety material for teachers to complement the Years 7-10 PDHPE, Student Wellbeing and Senior English programs.

3.3 Behaviour of motorists

Slower vehicle speeds in the vicinity of bus stops allow motorists greater opportunity to stop in the event of a child unpredictably crossing a road. Slower speeds would result in less energy in a collision, and less likelihood of serious injury should a collision occur.

In NSW, flashing lights and regulatory 40 km/h speed zones come into effect for vehicles following a school bus when the bus approaches, stops at, and leaves a bus stop. Flashing lights on the front of a school bus warn of potential school-aged pedestrian activity. Flashing lights on school buses are part of the safe system around school bus stops and need to be supported by appropriate modifiers to road user behaviour and a suitable road environment.

A clear line of sight to bus stop locations and pedestrian crossing points is essential for motorists to see the bus or pedestrian on the roadway, assess the situation, and take necessary action. See Section 4.2 - Sight distance and driver reaction times.

Roadside warning signs can alert motorists of the need for increased caution and risks at particular locations. See Section 5 - Signposting.

Austroads *Guide to Road Design Part 3: Geometric Design* provides a commentary on factors outside of road safety and design and potential modifiers to driver behaviour and operating speed. See Section 4.2.3 *Driver reaction times*.

3.4 Speed management

Speed management is a critical consideration in safe systems and should be a consideration in locating appointed bus stops for school children.

Appropriate speed zoning, active signage and geometric design are safety features which can manage speeds to reduce the likelihood of crashes and minimise harm in crashes.

RMS manages the setting of speed limits on all roads in NSW. NSW Speed Zoning Guidelines provides the basis for speed zoning in NSW. It contains guidelines and technical information needed to understand the principles of speed zoning and procedures in for assessing and determining speed zones. Key considerations in assessing speed limits include the crash history of the route, road side land use, road alignment, and road, shoulder and clear zone widths.

Any concerns about a speed limit on a school bus route should be raised with RMS for assessment against its speed zoning guidelines.

3.4.1 Additional speed management controls

In addition to zoning, speed management controls include:

- Flashing lights on buses see Behaviour of motorists
- Roadside or bus signage alerts see Signposting
- Road geometry and traffic calming
- Potential behaviour modifiers

In some low speed urban environments, appropriate operating speeds can be achieved by geometrically altering the road environment through traffic calming devices (slow points through vertical and horizontal deflection) and visual cues (gateway treatments). These treatments cause road users to alter behaviour and reduce speeds to negotiate the devices. When constructed in accordance with the Austroads Guidelines and RMS Supplements, these measures should be self-evident and self-enforcing.

Austroads *Guide to Road Design Part 3: Geometric Design* provides a commentary on potential modifiers to driver behaviour and operating speed outside of road safety and design.

3.5 Vehicle movement around bus stops

The safety of bus movements, and other vehicle movements associated with parents in vehicles dropping off or waiting for school children should be considered when assessing the location of bus stops.

Appointed school bus stops should be located so that:

- Buses can stop clear of traffic lanes, on sealed road shoulders or in purpose built bus bays
- Buses can safely pull off into bus stops and safely re-enter traffic, with:
 - o appropriate sight lines between buses and oncoming traffic
 - stops designed to recommended road design layouts
 - o stops designed for all weather use
- Parents can drop off or wait for children clear of traffic, clear of the passenger waiting area and clear
 of the bus stopping area. See Section 4.7, Parking for parents and carers near bus stops. Parking
 areas should be located on the same side of the road as the bus stop to avoid the need for
 pedestrians to cross the road

The State Transit NSW, Bus Infrastructure Guide provides some guidance regarding dimensions of bus movements into and out of bus stops and bus zones.

4 Factors to consider when locating bus stops

Appointed school bus stops should be located with pedestrian access and waiting areas. The selection of appropriate locations for appointed school bus stops requires a safe systems approach outlined in Section 3, *Best practice considerations* as well as the following:

- road and traffic environment
- sight lines and distances
- shoulder widths and roadside conditions
- nearby intersections
- nearby bus stops
- availability of pedestrian facilities, and roadside pedestrian access
- roadside parking, drop-off and pick-up locations

4.1 Road environment risk assessment

A safety and risk analysis should be performed for all bus stop locations. Assessment of the road and traffic environment should include the traffic composition or proportion of heavy vehicles, traffic volumes, vehicle speeds, and how frequent the bus stop will be used. Consider relocating bus stops to safer road environments.

For road safety risk assessments of proposed appointed school bus stop locations, undertake a road safety audit in accordance with Austroads guidelines. For an assessment, a review of crash data for the previous five years would also be appropriate. In a rural area, data for 500 metres either side of the bus stop should be considered as it may highlight risks that need to be considered for the bus stop.

4.1.1 Potential wet weather issues

The assessment described in 4.1 should be inclusive of wet weather issues

Wet weather and reduced visibility can affect the safety and usability of the road environment as well as the following bus stop-related areas:

- The waiting area
- The parking area
- Pedestrian access to a stop
- The bus pull-off area

If any of these areas are adversely affected by wet weather, there may be an increased risk of pedestrian or vehicular conflict with passing traffic, especially when factors such as poor visibility, distraction and masking of sound can also affect a person's ability to be safe in wet weather.

It is desirable that bus stops be constructed to avoid wet weather impacts or located in areas where wet weather will not affect them.

4.2 Sight distance and driver reaction times

All school bus stops should be located so that they are clearly visible to motorists so that drivers will have sufficient time to react and stop if there is a slowly manoeuvring bus or pedestrian on the roadway.

A clear line of sight to bus stop locations and pedestrian crossing points is essential for motorists to view the stopped or manoeuvring bus or the child (or adult) pedestrian approaching or on the roadway, assess the situation and take necessary action.

A bus can temporarily block sight lines between pedestrians and motorists. Providing sufficient sight distance is critical for visibility of the stopped or stopping bus, and visibility of pedestrians after the bus has

departed. The greater the sight lines to a bus stop, the greater likelihood of motorists of being able to take necessary action.

The sight distance measurement preferred for appointed school bus stops is whichever is the greater of the following:

- Safe intersection sight distance
- Crossing sight distance

Austroads *Part 4A: Unsignalised and Signalised Intersections* section 3 *sight distance* provides details of calculating safe intersection sight distance and crossing sight distance.

Austroads Guide to Road Design Part 3: Geometric Design, Section 5 sight distance provides further details for sight distance calculations.

4.2.1 Safe intersection sight distance

In general, higher speed zones need a longer sight line for motorists to make judgements, take action and stop when necessary. Curves, crests and roadside vegetation can all reduce sight lines.

Calculate safe intersection sight distance with consideration of variables associated with the particular road location including driver decision and reaction time, vehicle operating speeds, the coefficient of deceleration and the longitudinal gradient of the road approach. See Austroads Guide to Road Design Part 4A, section 3 Sight Distance. Consider other factors such as horizontal curves with close roadside vegetation or other obstructions, gravel surfaces, and heavy vehicle traffic. *Austroads Guide to Road Design Part 3: Geometric Design, Section 5* provides further guidance.

4.2.2 Crossing Sight Distance

Crossing sight distance calculations include the speed of the pedestrian crossing the road, the distance that needs to be crossed, and the speed of the oncoming traffic. On wide roads, the width of the road and the resultant time that the pedestrian is on the roadway can become the critical consideration for the safety of a location. (See Austroads Guide to Road Design, section 3.3 pedestrian sight distance).

4.2.3 Driver reaction times

Of particular relevance to school bus stops, is the Austroads discussion on driver reaction times in *Austroads Guide to Road Design Part 3, Section 5.2.2*). Austroads notes that a higher reaction time should be used in sight distance calculations for the following:

- Areas with high driver workload/complex decisions
- Un-alerted driving conditions due to the road only having isolated geometric features to maintain driver interest
- High speed roads with long distances between towns
- See RMS Supplement to Austroads Guide to Road Design Part 3, for RMS practice for Driver Reaction Time

4.3 Road shoulders

NSW road rules require that, outside a built up area, heavy vehicles (including buses) must only stop on a road shoulder. Outside a built up area, the road rules prohibit stopping by any vehicles near curves or crests, on a road or road shoulder, where an approaching motorist cannot see them for at least 100 metres (unless sign posted otherwise).

If a bus stops close to a double barrier line or on a curved road with no centre-line, it may force passing traffic onto the wrong side of the road in a dangerous situation. Bus stops should not be located:

within 3 metres of a double barrier centre-line

• on curves or curve approaches, on a narrow unmarked road See also Section 4.6, *Waiting area for school children* for advice relating to curves and overtaking lanes.

4.4 Bus stops near intersections and pedestrian facilities

A bus stopped on the approach to an intersection can obstruct sight lines between turning and oncoming traffic. The closer a bus stops to an intersection, the greater the likelihood of blocking sight lines. Similarly, a bus stopped on the approach to a marked pedestrian crossing or pedestrian refuge can obstruct sight lines between pedestrians and oncoming motorists.

To ensure the overall safety near intersections and pedestrian facilities it is desirable that Bus stops be located on the departure from intersections and pedestrian facilities, rather than on approaches. A distance of 50 metres on the departure side of intersections generally allows for a balance between improved sight distance and walking distance from a side road or pedestrian facility. If the bus stop is able to be located further away from the through traffic (5 metres) a short distance may be feasible (20 metres).

Further information: Austroads Guide to Road Design Part 4: Intersections and Crossings, section 6.3 *Bus Facilities*.

4.5 Nearby bus stops

Where there are bus stops on both sides of a road, they should be staggered so that there is a clear crossing area for pedestrians between the backs of buses that may stop around the same time.

Where there are opposing or nearby bus stops, they should be set as far back from travel lanes as possible, to maximise visibility for, and of, pedestrians.

Where there are bus stops close to one another on the same side of the road, they should be consolidated to the safer site, if access and other conditions are adequate.

4.6 Waiting area for school children

School students should be able to wait in an area well clear of passing traffic, free of roadside hazards.

A cleared, hard stand, all weather waiting area, preferably eight metres from the edge of travel lanes, is desirable. Roadside hazards can include steep drains, poor draining ground, trip hazards, and encroaching vegetation.

One of the hazardous roadside areas on rural roads is on the outside of curves, where there is greatest likelihood of a vehicle leaving the roadway. The end of an overtaking lane is another hazardous roadside area. Locating bus stops at either of these locations should be avoided.

Note that Australian Human Right Commission Guideline for promoting compliance of bus stops with the Disability Standards for Accessible Public Transport 2002, requires bus stop to have a minimum 2070 mm by 1540 mm wheelchair manoeuvring area

4.7 Parking for parents and carers near bus stops

The bus stop location should have sufficient space for carers dropping off or waiting to pick up children. This will vary depending on the number children using the stop. Drop off and pick up areas should be located:

- on the same side of the road as the bus stop
- separate from the area where children wait for the bus
- have clear and safe access from parking areas to where children wait for the bus

NSW Road Rules contain rules regarding stopping near and around bus stops and bus zones. For example:

- Road Rule 195 outlines the permissions for stopping a bus in a bus stop, and states that other vehicles are prohibited from stopping within 20 metres on the approach and 10 metres on the departure of a bus stop
- Road Rule 183 outlines the permissions for stopping in a bus zone; that "a driver must not stop in a bus zone

5 Signposting

NSW Roads and Maritime standard traffic signs and associated sign design plans can be found on Roads and Maritime website - Signage. The database is searchable.

Note that under the NSW *Road Rules* rule 21-1, "a school bus stop zone sign is a speed limit sign" and should only be used at designated school bus stop zones.

5.1 Bus stop signs

An appointed bus stop is often identified by the use of a J-stem (or J-pole) or plinth.

5.2 Bus zone signs

Bus zone signs should be installed at bus stops requiring a length to cater for more than one bus to stop at the one time, or where there is a high demand for parking and a high risk of parking within the bus stop.

The length of a bus zone should not be less than the 30 metre length specified by Road Rule 195 for a standard bus stop.



Figure 1: Bus zone sign (examples only) R5-20

5.3 Informal school bus stop signs

Rural and regional informal school bus stops are generally not signposted.

5.4 Warning signs

Where guidelines have been met, signage is not required on rural school bus routes. School bus warning signs should not be used to justify unsafe school bus routes or bus stop locations. A determination on whether warning signage is required should be based on a risk assessment carried out by the roads authority. If a bus stop is situated where it is considered it needs a warning sign, then the bus stop should not be there at all – the stop should be relocated to a site that provides adequate sight distance.

School bus warning signs should only be used, where necessary, to improve safety along routes where there is no alternative stop and conditions are not ideal, such as roads with traffic characteristics of high speed and high frequency of heavy vehicles, but sight distances are adequate.

Improved roadside signage may be more noticeable and visible from an approaching driver's perspective than solely relying on the bus flashing lights. Such markings could also warn drivers of the possible presence of a child waiting or playing at a roadside bus stop when the bus is not present. Additional approach signage could include the examples shown in Figure 2 to Figure 5.



Figure 2: School Bus sign (symbolic - front view) - W6-204



Figure 3: School Bus sign (symbolic - rear view) - W6-209



Figure 4: School Bus Route sign - W6-205



Figure 5: School Bus Stop Ahead sign - W8-213

A school bus turn around area along a school bus route can be signed, where for safety reasons, it is necessary to warn motorists of the possibility of a school bus turning. The school bus turning sign should not be used to justify an unsafe school bus turn around location.



Figure 6: School Bus Turning sign - W8-222

6 References and further reading

Include in relevant section as references at point of need.

Provide list of references at end of document only.

Local Council guidelines examples:

Eurobodalla Share Council - http://www.esc.nsw.gov.au/inside-council/council/council-policies/codes/Rural-School-Bus-Routes-and-Bus-Stops-Code-v2.pdf

Temora Shire Council - http://www.temora.nsw.gov.au/f.ashx/documents/Policiesandcodes/Rural-School-Bus-Routes-and-Bus-Stops-Guidelines.pdf

Queensland Department of Transport and Main Roads - Road Safety for Rural and Remote Areas (2006) – includes whole section – Guide for the road safety management of rural school bus routes and bus stops.

A guide to the delegation to councils for the regulation of traffic

6.1 Behaviour of children in traffic

'Safetytown' is the key resource in New South Wales for child road safety and provides advice on the capabilities of children in traffic.

https://www.safetytown.com.au/

6.2 Speed zoning

The New South Wales Speed Zoning Guidelines provide advice on speed zones and speed zone assessments in New South Wales.

http://roadsafety.transport.nsw.gov.au/downloads/nsw sza.pdf

6.3 Bus stop design

Section 4 of the *Austroads Guide to Road Design: Part 3 Road Geometry* provides road design guidance and other considerations for bus stops, including school bus stops.

https://www.onlinepublications.austroads.com.au/items/AGRD03-16

State Transit NSW, Bus Infrastructure Guide 2011bus design envelope

https://www.statetransit.info/publications/Bus%20Infrastructure%20Guidelines%20-Issue%202.pdf

6.4 Sight distance

Section 3 of *Austroads Guide to Road Design: Part 4A Unsignalised and Signalised Intersections* provides guidance on safe Intersection Sight Distance and Crossing Sight Distance.

https://www.onlinepublications.austroads.com.au/items/AGRD04A-17

Section 5 of *Austroads Guide to Road Design: Part 3 Road Geometry* provides further detail on parameters for consideration in determining sight distances in different road environments and for different vehicle types.

https://www.onlinepublications.austroads.com.au/items/AGRD03-16

6.6 Sign posting

Designs for Bus Zone signs and School Bus Stop Warning signs can be found on the Roads and Maritime website:

http://www.rms.nsw.gov.au/cgi-bin/index.cgi?action=searchtrafficsigns.form

6.7 Disability access

Disability standards for accessible public transport can be found at:

https://infrastructure.gov.au/transport/disabilities/

TfNSW Disability Action Plan 2012-2017 can be found at:

http://www.transport.nsw.gov.au/sites/default/files/b2b/publications/tfnsw-disability-action-plan-2012-2017.pdf

6.8 Road safety assessment

Austroads Guide to Road Safety: Part 6 Road Safety Audit can be found at:

https://www.onlinepublications.austroads.com.au/items/AGRS06-09

6.9 Non-designated school bus stops

Centre for Road Safety Guidance for locating Informal school bus stops has been provided separately at: http://roadsafety.transport.nsw.gov.au/downloads/advice-for-choosing-locations-of-informal-school-busstops.pdf.



rms.nsw.gov.au



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Customer feedback Roads and Maritime Locked Bag 928, North Sydney NSW 2059