



Manual of uniform traffic control devices

Part 9: Bicycle facilities



This Australian Standard® was prepared by Committee MS-012, Road Signs and Traffic Signals. It was approved on behalf of the Council of Standards Australia on 12 July 2018. This Standard was published on 9 August 2018.

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 - Australian Industry Group
 - Australian Motorcycle Council
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-

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Standards Australia wishes to acknowledge the participation of the expert individuals that contributed to the development of this Standard through their representation on the Committee and through the public comment period.

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Australian Standard®

Manual of uniform traffic control devices

Part 9: Bicycle facilities

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PREFACE

This Standard was prepared by the Standards Australia Committee MS-012, Road Signs and Traffic Signals, to supersede AS 1742.9—2000. It is one in a series of fourteen Standards which together form the *Manual of uniform traffic control devices*. The series comprises the following Standards:

AS

1742	Manual of uniform traffic control devices
1742.1	Part 1: General introduction and index of signs
1742.2	Part 2: Traffic control devices for general use
1742.3	Part 3: Traffic control devices for works on roads
1742.4	Part 4: Speed controls
1742.5	Part 5: Street name and community facility name signs
1742.6	Part 6: Tourist and services signs
1742.7	Part 7: Railway crossings
1742.9	Part 9: Bicycle facilities (this Standard)
1742.10	Part 10: Pedestrian control and protection
1742.11	Part 11: Parking controls
1742.12	Part 12: Bus, transit, tram and truck lanes
1742.13	Part 13: Local area traffic management
1742.14	Part 14: Traffic signals
1742.15	Part 15: Direction signs, information signs and route numbering

This edition of the Standard has been revised from the 2000 edition. It reflects an increasing community desire for improved bicycle facilities and now covers matters not previously covered, as follows:

- (a) Inclusion of safety strip pavement marking associated with bicycle lanes and inclusion of pavement marking to reflect new Australian Road Rules.
- (b) Applying bicycle lane signing to reflect the Australian Road Rules.
- (c) Improved bicycle lane sign positioning.
- (d) Inclusion of sign posting and pavement marking options where bicycle lanes terminate.
- (e) Rationalization of shared use path pavement marking.
- (f) Inclusion of new warning and supplementary signs.
- (g) Revised guidelines for navigational aids for cyclists.

The relationship between Australian Standards and publications produced by Austroads should be noted. The former provides specifications and procedures that ensure that products and services are safe and reliable, and consistently perform the way they are intended. The latter provides guidance documents that deal with the design, construction maintenance and operation of the road network. Austroads documents are also used by road authorities in New Zealand.

In cases of similar subject matter, this is dealt with across both sets of documents and each document aims to provide information that is consistent, complementary and supportive of the other.

The terms ‘normative’ and ‘informative’ have been used in this Standard to define the application of the appendix to which they apply. A ‘normative’ appendix is an integral part of a Standard, whereas an ‘informative’ appendix is only for information and guidance.

CONTENTS

	<i>Page</i>
SECTION 1 SCOPE AND GENERAL	
1.1 SCOPE.....	4
1.2 OBJECTIVE.....	4
1.3 REFERENCED DOCUMENTS.....	4
1.4 DEFINITIONS.....	5
1.5 SIGNS—GENERAL REQUIREMENTS.....	5
1.6 COLOUR.....	5
SECTION 2 BICYCLE PROVISIONS ON ARTERIAL ROADS AND LOCAL STREETS	
2.1 GENERAL.....	7
2.2 SIGNS	7
2.3 PAVEMENT MARKINGS	13
2.4 BICYCLE PROVISIONS MID-BLOCK	19
2.5 BICYCLE LANE TREATMENTS AT INTERSECTIONS	22
SECTION 3 BICYCLE PATH AND FOOTPATH PROVISIONS	
3.1 GENERAL.....	26
3.2 SIGNS	26
3.3 PAVEMENT MARKINGS	30
3.4 FOOTPATHS AND SHARED PATHS	34
3.5 SEPARATED PATHS	35
3.6 BICYCLE PATHS.....	38
3.7 ROAD CROSSINGS MID-BLOCK	38
3.8 ROAD CROSSINGS AT INTERSECTIONS	44
SECTION 4 BICYCLE PROVISIONS ON EXPRESSWAY TYPE ROADS	
4.1 GENERAL.....	47
4.2 SIGNS	47
4.3 APPLICATION OF SIGNS TO FREEWAY INTERCHANGES.....	50
SECTION 5 NAVIGATIONAL AIDS FOR CYCLISTS	
5.1 GENERAL.....	54
5.2 BICYCLE SYMBOL	54
5.3 COLOUR AND REFLECTORIZATION.....	54
5.4 DIRECTION SIGNS.....	55
5.5 LOCATION OF SIGNS.....	56
APPENDICES	
A ILLUMINATION AND REFLECTORIZATION OF SIGNS	58
B INSTALLATION AND LOCATION OF SIGNS	59
C SELECTION OF APPROPRIATE SIGN SIZE	62

STANDARDS AUSTRALIA

Australian Standard

Manual of uniform traffic control devices

Part 9: Bicycle facilities

SECTION 1 SCOPE AND GENERAL

1.1 SCOPE

This Standard specifies requirements for the signs, pavement markings and other devices to be applied to bicycle facilities both on the road and on paths separate from the road, either for the exclusive use of bicycles or joint use with other users. The Standard includes recommendations for guide signs and other navigational information for cyclists.

NOTE: This Standard does not include signs indicating parking facilities for bicycles. Reference should be made to AS 2890.3.

1.2 OBJECTIVE

The objective of this Standard is to provide road authorities and local government authorities with a uniform set of devices to control and promote the safe use of bicycle facilities on roads and on paths separate from the road.

1.3 REFERENCED DOCUMENTS

The following documents are referred to in this Standard:

AS

- 1742 Manual of uniform traffic control devices
- 1742.2 Part 2: Traffic control devices for general use
- 1742.3 Part 3: Traffic control devices for works on roads
- 1742.10 Part 10: Pedestrian control and protection
- 1742.11 Part 11: Parking controls
- 1742.14 Part 14: Traffic signals

1743 Road signs—Specifications

1744 Standard alphabets for road signs

2700 Colour Standards for general purposes

2890 Parking facilities

2890.3 Part 3: Bicycle parking facilities

AS/NZS

1906 Retroreflective materials and devices for road traffic control purposes

1906.1 Part 1: Retroreflective sheeting

Austroads

Guide to Traffic Management

Guide to Road Design

Cycling Aspects of Austroads Guides

1.4 DEFINITIONS

For the purposes of the Standard, the definitions below apply.

1.4.1 Bicycle lane

A lane on a road set aside for the exclusive use of bicycle traffic either full-time or part-time.

1.4.2 Bicycle path

A path set aside for the exclusive use of bicycle traffic.

1.4.3 Footpath

A path for use by pedestrian and bicycle traffic, the latter subject to traffic regulations.

1.4.4 May

Indicates the existence of an option.

1.4.5 Path

Any route intended for use by pedestrians or bicycle traffic or both which is not part of a road and which may or may not be adjacent to a road.

1.4.6 Separated path

A path signed for separated use on which bicycles and pedestrians are required to use separate designated areas.

1.4.7 Shall

Indicates that a statement is mandatory.

1.4.8 Shared path

A path signed for shared use by pedestrian and bicycle traffic using a common area.

1.4.9 Should

Indicates a recommendation.

1.5 SIGNS—GENERAL REQUIREMENTS

Specifications for the manufacture of traffic signs are given in AS 1743. Standard alphabets for road signs are given in AS 1744.

Requirements for the reflectorization and illumination of signs which are required to be seen at night by either cyclists or motor vehicle drivers, are given at Appendix A.

NOTES:

- 1 Guidance on the installation and location of signs is given at Appendix B.
- 2 Guidance on the selection of sign sizes for various purposes is given at Appendix C.

1.6 COLOUR

Where colours are specified, the colours shall conform to the following:

- (a) Retroreflective materials on signs—in accordance with AS/NZS 1906.1.
- (b) Non-reflective colours on signs—colours shall closely approximate the following colours defined in AS 2700:

Red— R13 Signal Red

Yellow— Y14 Golden Yellow

Brown— X65 Dark Brown

Blue— B11 Rich Blue

(c) Bicycle lane colour in high conflict areas —G13 Emerald Green.

SECTION 2 BICYCLE PROVISIONS ON ARTERIAL ROADS AND LOCAL STREETS

2.1 GENERAL

This Section deals with provisions for bicycles on arterial roads and local streets, either adjacent to motor traffic lanes or on lanes shared with motor traffic. Bicycle provisions on paths are dealt with in Section 3. Direction signs and other navigational aids for cyclists are dealt with in Section 5.

The various forms of provision for bicycles on arterial roads and local streets are categorized as follows:

- (a) Bicycle lane (full-time) (see Clause 2.4.1).
- (b) Bicycle lane (part-time) (see Clause 2.4.2).
- (c) Bicycle lane adjacent to car parking bays (see Clause 2.4.3).
- (d) Wide parking lane with bicycle provision (see Clause 2.5).
- (e) Wide kerbside lane (see Clause 2.4.3).
- (f) Sealed shoulder (see Clause 4.1).

2.2 SIGNS

Signs used to control bicycles on roads and to provide relevant warning of hazards are listed in Table 2.1.

TABLE 2.1
CONTROL AND WARNING SIGNS FOR BICYCLE
FACILITIES ON ROADS

Sign	Sign number	Size mm
ONE WAY	R2-2A(L,R)	450 × 600
	R2-2B(L,R)	600 × 800
NO ENTRY	R2-4A	450 × 450
	R2-4B	600 × 600
	R2-4C	750 × 750
ONE WAY (Repeater)	R2-17A	450 × 800
NO HOOK TURN BY BICYCLES	R2-22	750 × 750
No Bicycles	R6-10-3B	600 × 600
	R6-10-3C	750 × 750
	R6-10-3D	900 × 900
Bicycle LANE	R7-1-4B	450 × 600
	R7-1-4C	600 × 800
	R7-1-4D	900 × 1200
AHEAD	R7-2B	450 × 150
	R7-2C	600 × 200
	R7-2D	900 × 300

(continued)

TABLE 2.1 (continued)

Sign	Sign number	Size mm
END	R7-4B	450 × 150
	R7-4C	600 × 200
	R7-4D	900 × 300
Overhead arrow	R7-5B	450 × 300
	R7-5C	600 × 400
	R7-5D	900 × 600
Bicycle Path ONLY	R8-1A	300 × 400
	R8-1B	450 × 600
	R8-1C	600 × 800
Times of Operation module	R9-1-1A	450 × 300
	R9-1-1B	600 × 400
	R9-1-1C	900 × 600
	R9-1-2A	450 × 450
	R9-1-2B	600 × 600
	R9-1-2C	900 × 900
BICYCLES EXCEPTED	R9-3A	450 × 300
	R9-3B	600 × 400
	R9-3C	750 × 500
	R9-3D	1500 × 300
Bicycle (symbolic)	W6-7A	600 × 600
	W6-7B	750 × 750
NEXT x km	W8-17-1A	600 × 400
	W8-17-1B	750 × 500
NEXT x m	W8-17-2A	600 × 400
	W8-17-2B	750 × 500
Crossing Arrows	W8-23A	600 × 200
	W8-23B	750 × 250
WATCH FOR Bicycles	G9-57A	900 × 800
	G9-57B	1200 × 1100
Cyclists DISMOUNT	G9-58A	450 × 450
	G9-58B	600 × 600
All Bicycles	G9-60A	450 × 600
	G9-60B	600 × 800

Signs used to control bicycles on roads and to provide relevant warning of hazards are used as follows:

(a) *ONE WAY (R2-2)*



R2-2

The ONE WAY sign shall be installed opposite the terminating leg of a T-intersection where there is a bicycle contraflow facility on the through road. The BICYCLES EXCEPTED sign shall be installed below the ONE WAY sign.

(b) *NO ENTRY (R2-4)*



R2-4

The NO ENTRY sign shall be used at the termination of a one-way roadway. Where bicycle contraflow facility is provided on a one way roadway, the BICYCLES EXCEPTED sign shall be installed below the NO ENTRY sign (see Clause 2.4.4).

(c) *ONE WAY (Repeater) (R2-17)*



R2-17

The ONE WAY (Repeater) sign may be installed on a road on which a bicycle contraflow facility has been provided. Where the ONE WAY (Repeater) sign is installed on a road, the BICYCLES EXCEPTED sign shall be installed below the ONE WAY (Repeater) sign.

(d) *NO HOOK TURN BY BICYCLES (R2-22)*



R2-22

The NO HOOK TURN BY BICYCLES sign shall be used in advance of any intersection where a hook turn by cyclists might be contemplated but is to be prohibited in the particular case.

(e) *No Bicycles (R6-10-3)*

R6-10-3

This sign shall be used at the beginning of any section of road or path along which the riding of bicycles is to be prohibited by use of a sign. The END supplementary plate (R7-4) [see Clause 2.2(g)] may be added to indicate the point at which the prohibition ends.

The no-bicycles pavement symbol may be used in lieu of this sign [see Clause 2.3.2(a)].

(f) *Bicycle LANE (R7-1-4)*

R7-1-4

The Bicycle LANE sign is used to designate a bicycle lane as follows:

- (i) At the beginning of a full-time or part-time bicycle lane and at additional locations such that the spacing does not exceed 500 m. The Times of Operation supplementary plate shall be added to the sign for part-time operation.
- (ii) In conjunction with the END supplementary plate at the end of a full-time or part-time bicycle lane where the lane terminates at other than an intersection or the end of a road.

(g) *Bicycle lane supplementary plates* Supplementary plates shall be used in conjunction with the Bicycle LANE (R7-1-4) sign as follows:

- (i) AHEAD (R7-2) shall be used if advance notice of the start of a bicycle lane is required.
- (ii) END (R7-4) shall be used to indicate the end of a bicycle lane.
- (iii) Overhead Arrow (R7-5) shall be used if needed to indicate which lane is the bicycle lane by placing the sign assembly above the relevant lane.
- (iv) Times of Operation (R9-1-1, R9-1-2) shall be used to indicate the times a part-time bicycle lane operates.



R7-2



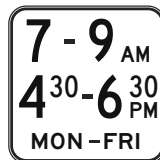
R7-4



R7-5



R9-1-1



R9-1-2

- (h) *Bicycle Path ONLY*
(R8-1)



R8-1

This sign shall be used to designate a path for the exclusive use of bicycles.

- (i) *BICYCLES EXCEPTED*
(R9-3)



R9-3

The BICYCLES EXCEPTED sign shall be used in conjunction with another regulatory sign where the regulatory requirement does not apply to bicycles, e.g. in conjunction with NO ENTRY, No Right (Left) Turn, NO THROUGH ROAD signs. Each potential use of this supplementary plate should be examined to ensure that bicycles will not be exposed to hazards, e.g. from unexpected conflict with motor vehicles.

- (j) *Bicycle Warning* (W6-7)



W6-7

This sign shall be used to warn motorists of the presence of bicycles on the road where cyclists are likely to come into conflict with motor traffic and are potentially at risk. The supplementary plates in Item (k) may be used with the sign where appropriate.

Where bicycle traffic may come into conflict with motor traffic at isolated locations, the sign specified in Item (l) shall be used in lieu of W6-7.

- (k) *Warning sign supplementary plates* The following supplementary plates may be used with the bicycle warning sign, W6-7:

NEXT x km (W8-17-1)

NEXT x m (W8-17-2)

Crossing Arrows (W8-23)



W8-17-1



W8-17-2



W8-23

(l) *WATCH FOR Bicycles (G9-57)*

G9-57

The WATCH FOR Bicycles sign shall be used at locations where it is necessary to advise motorists that bicycle traffic may come into conflict with motor traffic at a specific point due to a particular road feature or hazard. Such locations include the following:

- (i) At the narrowing of a road or shoulder normally used by significant numbers of cyclists, e.g. at a bridge.
- (ii) At intersection treatments where bicycle traffic may be squeezed for space, e.g. at chicanes.
- (iii) Where traffic entering from a side street has to cross a bicycle lane.
- (iv) On the approaches to multi-lane or large single lane roundabouts.
- (v) On left turn slip lanes where left turning traffic is provided with a merge taper or auxiliary lane.

Where traffic turning into a side street has to cross a path, the WATCH FOR Bicycles (G9-57) sign may be installed on both approaches to the intersection on the continuing road.

(m) *Cyclists DISMOUNT (G9-58)*

G9-58

This sign may be used to advise cyclists to dismount before reaching a particular place at or beyond which it would be hazardous to continue riding. A second sign indicating the reason for the warning should, where appropriate, be mounted below this sign.

Typical legends include the following:

- (i) GAPS IN BRIDGE DECK.
- (ii) BROKEN SURFACE.

This sign should not be used to remind cyclists that they are required to dismount under a road rule, e.g. at pedestrian crossings, children's crossings or marked foot crossings.

(n) *All Bicycles (G9-60)*

G9-60

This sign should be used at any point where it is required to direct all bicycles onto a particular route or path, e.g. from a bicycle lane onto a path.

2.3 PAVEMENT MARKINGS

2.3.1 General

The following pavement markings as illustrated in Figure 2.1(1) shall be used for bicycle lanes and facilities on roads:

- (a) *Bicycle lane line* The bicycle lane line shall be placed between the bicycle lane and lanes of moving traffic and where appropriate, parked vehicles. It shall be a white continuous line.
- (b) *Continuity line* A continuity line shall replace the bicycle lane line—
 - (i) where motor traffic needs to enter or cross a bicycle lane when making a turn at an intersection or major driveway; and
 - (ii) to show the continuity of a bicycle lane where it continues through an unsignalized intersection.
- (c) *Bicycle stop line* A white stop line the same width as the stop line provided for other traffic shall be provided in a bicycle lane at the point where bicycles need to stop at traffic signals. The bicycle stop line may be provided a minimum of 2.0 m in advance of the vehicular stop line to give bicycles a small head start at the onset of the green period, provided the line is clear of cross traffic and any marked pedestrian crossing.
- (d) *Bicycle storage area* A safe storage area for bicycles at the head of a traffic queue at a signalized intersection. The bicycle symbol shall be marked in the bicycle storage box.
- (e) *Hook turn storage box* A safe storage area for bicycles to indicate an alternative option for cyclists to turn right at signalized intersections. This facility is particularly suitable where cyclists would need to cross multiple lanes to turn right. A smaller bicycle symbol and pavement arrow shown in Figure 2.1(1) shall be used to indicate to cyclists where to stop and wait for the hook turn.

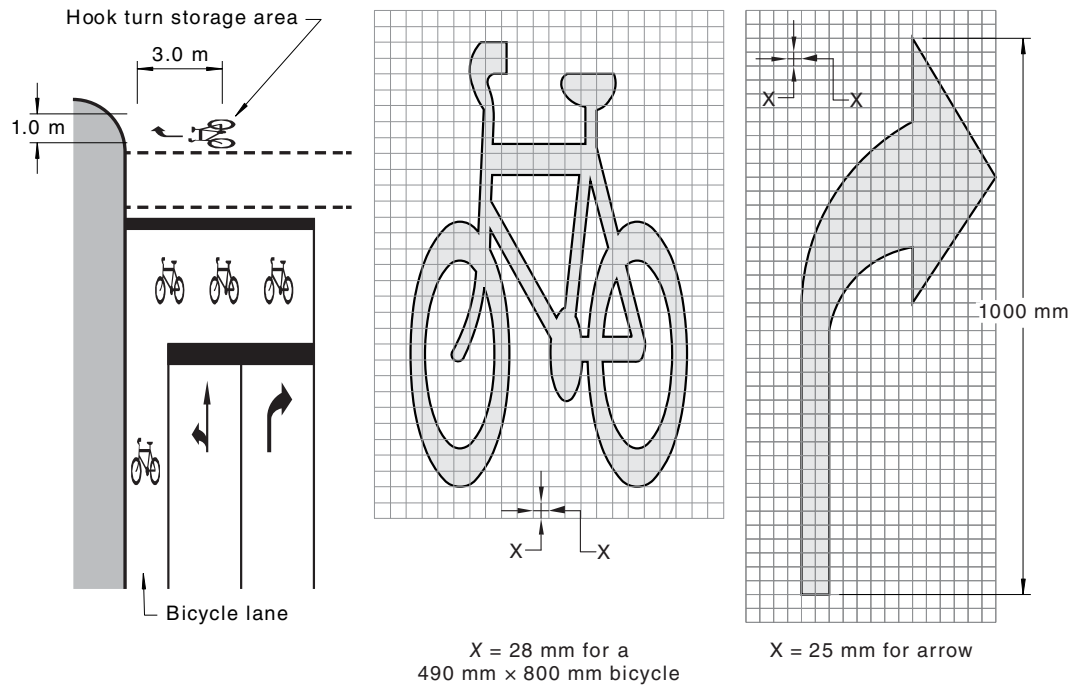


FIGURE 2.1(1) PAVEMENT MARKINGS USED FOR BICYCLE LANES

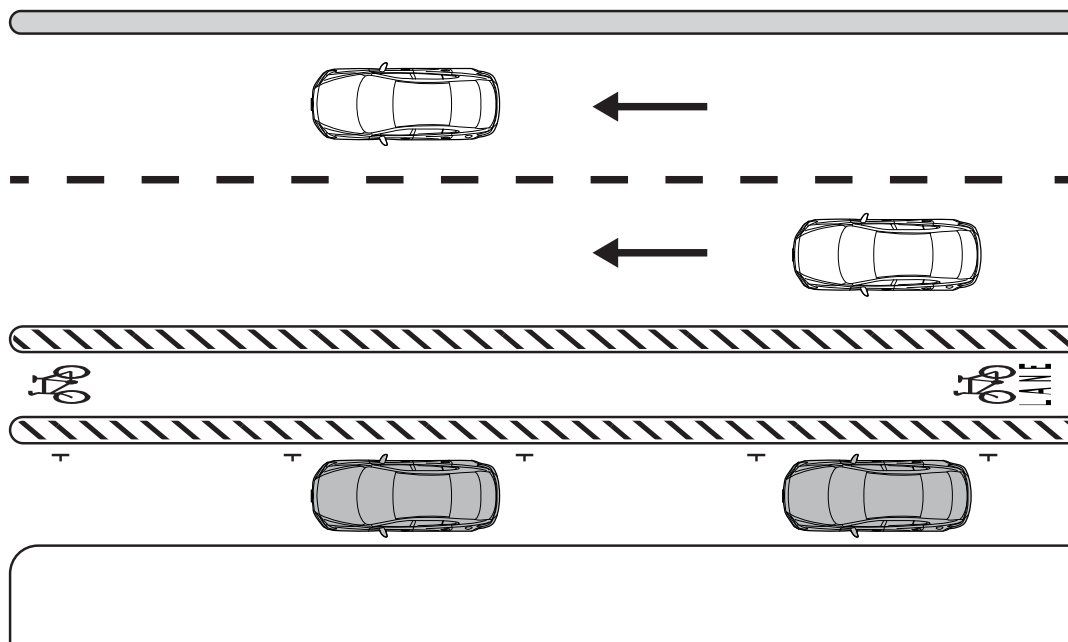


FIGURE 2.1(2) BICYCLE LANE SAFETY STRIP

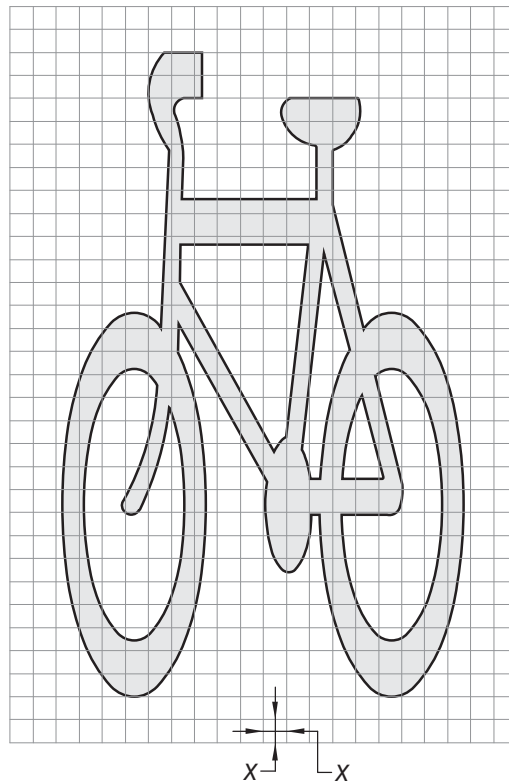
- (f) *Bicycle pavement symbol* Where used on roads, to indicate a bicycle lane, the bicycle symbol shall be as illustrated in Figure 2.2(1). The bicycle symbol may be installed in full-time and part-time bicycle lanes as follows:
- (i) It may be used in lieu of the bicycle lane (R7-1-4) sign at the beginning of the lane in conjunction with the word LANE and at additional locations along the lane as required [see Figure 2.2(2)].
 - (ii) It may be placed on the approach and departure sides of intersections (if the lane continues through the intersection). Symbols so placed may be considered as part of the Item (i) option.
 - (iii) It may be placed at the end of the lane in conjunction with the words LANE END as shown in Figure 2.2(3).

Where necessary the symbol size shall be reduced proportionately to fit within the lane.

2.3.2 Other pavement markings

The following additional pavement markings may be used where required:

- (a) *No bicycles symbol* The symbol illustrated in Figure 2.3 may be used in lieu of the No Bicycles (R6-10-3) sign as indicated in Clause 2.2(e).
- (b) *Bicycle lane safety strip* Safety of cyclists can be improved by providing separation between the bicycle lane and the traffic lane or parked vehicles to avoid instances of dooring. This separation may be provided by marking a safety strip as shown in Figure 2.1(2). Although desirable, it is not necessary to provide a safety strip on each side of the bicycle lane.



$X = 65 \text{ mm}$ for a $1100 \text{ mm} \times 1800 \text{ mm}$ bicycle suitable for roadway lanes

NOTE: A smaller symbol will be required for bicycle paths (see Figure 3.1).

FIGURE 2.2(1) BICYCLE PAVEMENT SYMBOL FOR ROAD USE

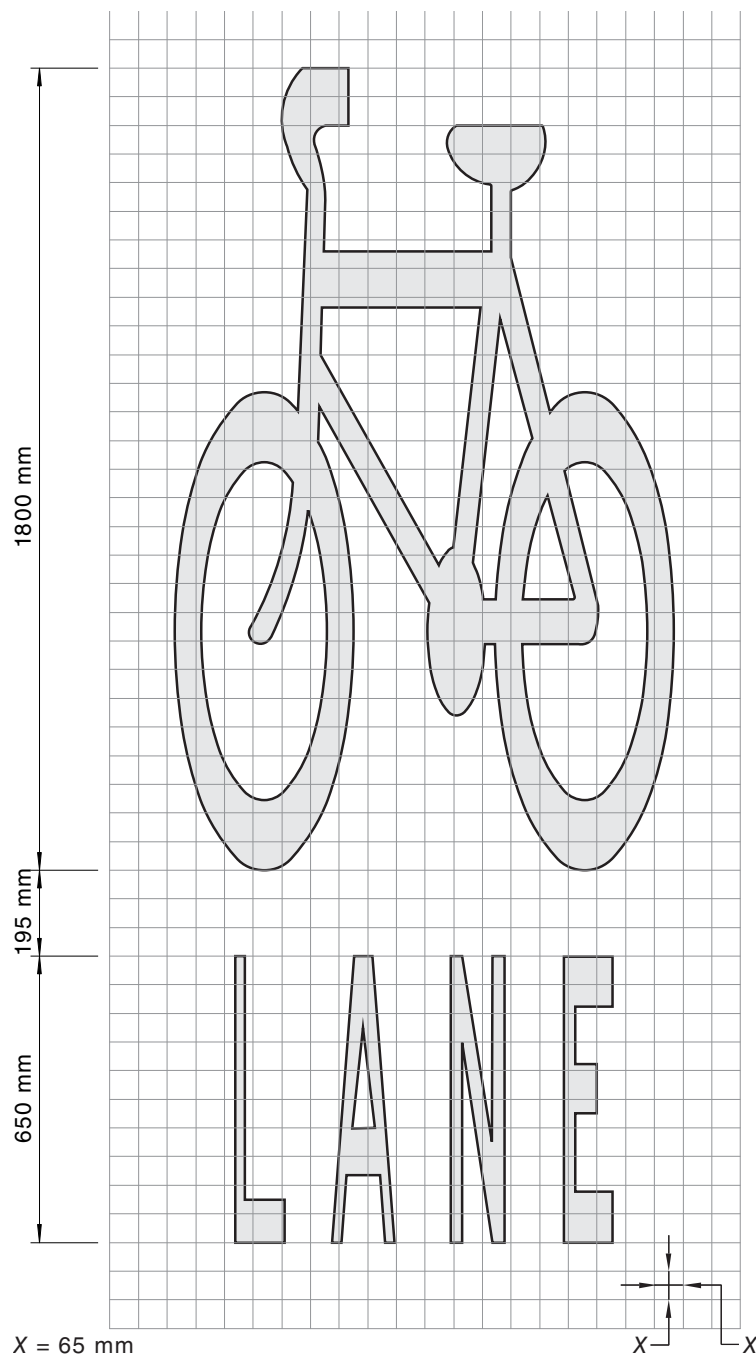


FIGURE 2.2(2) BICYCLE LANE PAVEMENT MARKING

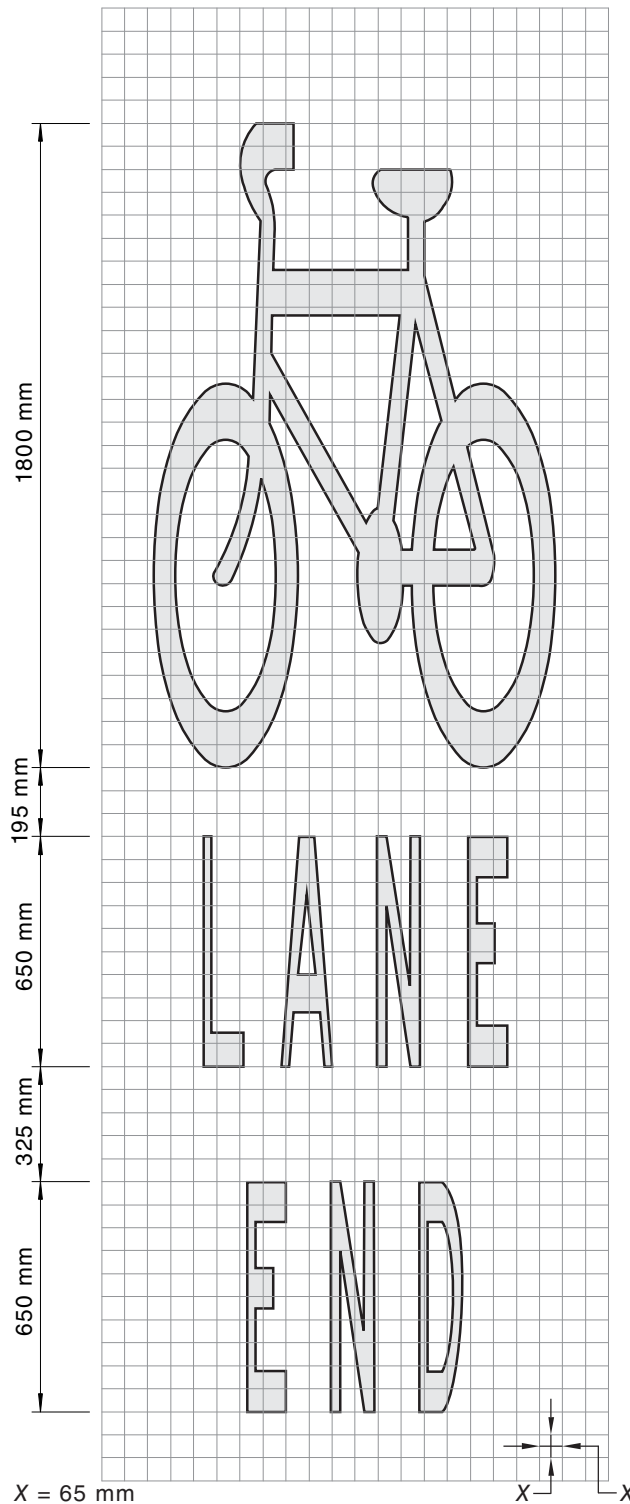


FIGURE 2.2(3) BICYCLE LANE END PAVEMENT MARKING

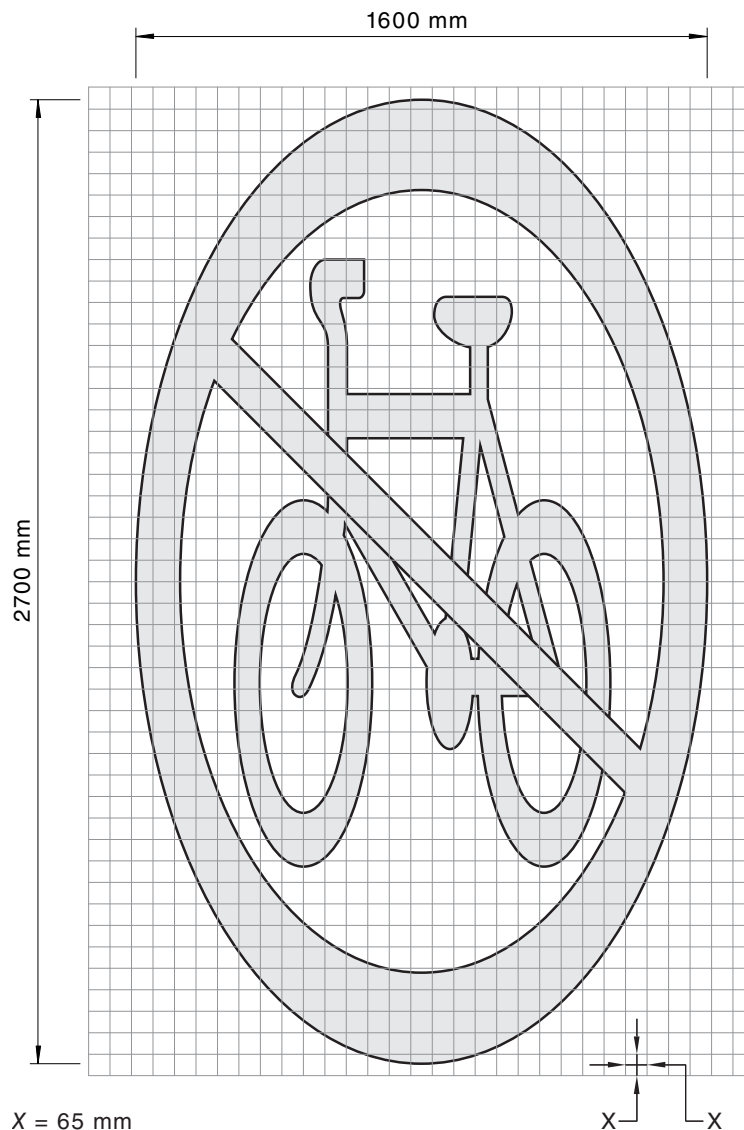


FIGURE 2.3 NO-BICYCLES PAVEMENT SYMBOL FOR ROAD USE

2.3.3 Pavement colour

Where used, the colour of pavement to indicate a bicycle lane shall be Emerald Green, as specified in Clause 1.6.

The use of pavement colour is optional. It should be limited to areas of potential conflict with motor vehicles, for example, bicycle storage areas and at the entry into auxiliary lanes or roundabouts.

2.4 BICYCLE PROVISIONS MID-BLOCK

2.4.1 Bicycle lane (full-time)

This is a signed facility comprising a special purpose lane within the road, separated from motor traffic by longitudinal line marking.

Signs and bicycle pavement symbols required for a full-time bicycle lane adjacent to a kerb are illustrated in Figure 2.4. The lane shall be separated from adjacent traffic lanes by a continuous line as indicated in Clause 2.3.1(a) and shall have either the Bicycle LANE (R7-1-4) signs or bicycle pavement symbols located as shown in the Figure 2.2(2). A bicycle lane safety strip may be installed as indicated in Clause 2.3.2(b).

No-stopping signs or painted yellow edge lines shall be provided where needed to control vehicles from stopping within the lane.

No-parking signs shall be provided if needed to control parking within the lane.

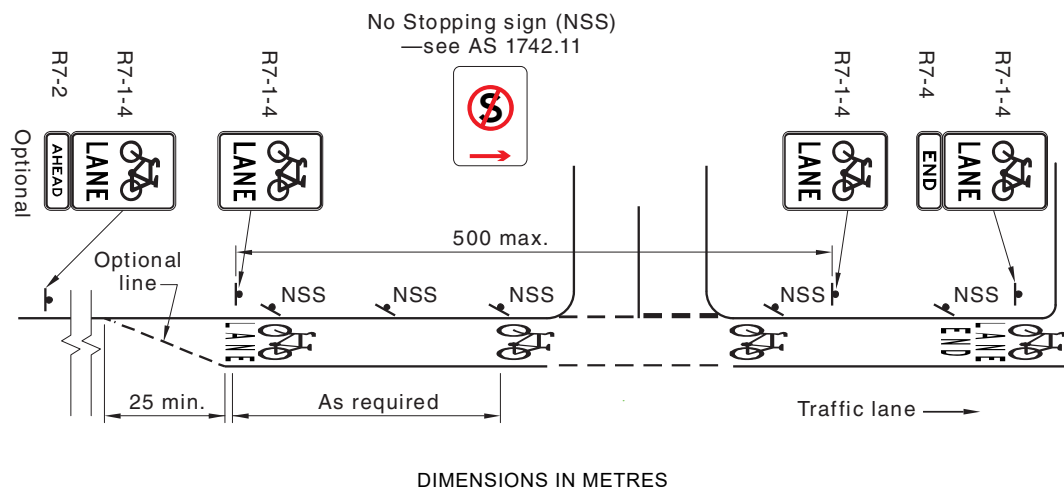


FIGURE 2.4 BICYCLE LANE (FULL-TIME) ADJACENT TO KERB

2.4.2 Bicycle lane (part-time)

This is a signed facility as in Clause 2.4.1 for the exclusive use of bicycle traffic during certain times of the day only, as indicated on signs.

Signs required for a part-time bicycle lane shall be as specified for a full-time lane with the addition of Times of Operation modules (R9-1-1, R9-1-2) to the Bicycle LANE (R7-1-4) signs.

Parking control signs to prohibit parking during the times of operation of the bicycle lane, and if necessary, to allow parking at other times, shall also be provided.

Figure 2.5 shows the options of either a narrow bicycle lane or a bicycle lane equal in width to the parking lane. If it is desired to mark the parking lane into bays, bay marking shall be limited to corner markings as shown in the figures.

NOTE: In some jurisdictions, parking control signs may not be required by state legislation.

Bicycle pavement symbols are optional on part-time lanes and should not be used if they could mislead cyclists when the lane is not in operation.