

Queensland Manual of Uniform Traffic Control Devices

Part 1: General introduction and index of signs

July 2023



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Feedback

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About this document

This document sets out the numbering system for signs. It also explains the basic elements of signs including shape, colour, lettering and dimensions.

For details regarding traffic signs only used in Queensland, refer:

<http://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/TC-signs>.

References to this website appear throughout this document. This reference is repeated in sections and clauses where Queensland signs are used in addition to those stated in the Standard (for example, refer to Clause 3.4.2).

How to use this document

This document is designed to be read and applied together with AS 1742.1-2021 *Manual of Uniform Traffic Control Devices Part 1* (AS 1742.1-2021). You must have access to the Australian Standard to understand what applies in Queensland.

This document:

- sets out how AS 1742.1-2021 applies in Queensland
- has precedence over AS 1742.1-2021 when applied in Queensland
- has the same section and clause numbering and headings as AS 1742.1-2021.

The following table summarises the relationship between AS 1742.1-2021 and this document:

Applicability	Meaning
Accepted	The Australian Standard section or clause is accepted.
Accepted, with amendments	Part or all of the section or clause has been accepted with additions, deletions or differences.
New	There is no equivalent section or clause in the Australian Standard.
Not accepted	The Australian Standard section or clause is not accepted.

References

The following references apply when reading AS 1742.1-2021.

Reference to...	Means
AS 1742.1-2021	AS 1742.1-2021, as amended by this document For example, a reference to AS 1742.1-2021 means you must refer to the Australian Standard Part 1, and Part 1 of the Queensland Manual of Uniform Traffic Control Devices (Queensland MUTCD). Throughout AS 1742.1-2021, references are made to other parts of the Australian Standards (for example, when reading Part 1 you may be referred to Part 3 for further information.) In this case, you must refer to the equivalent Part within the Queensland MUTCD first. Check the applicability of the equivalent Part in the Queensland MUTCD before referring to the referenced Australian Standard Part.
QGRS	<i>Queensland Guide to Road Safety</i>
QGTM	<i>Queensland Guide to Traffic Management</i>
QGTTM	<i>Queensland Guide to Temporary Traffic Management</i>

Reference to...	Means
QRSTUV	<u>Queensland Road Safety Technical User Volumes</u>
<u>Queensland (Q) series / Traffic Control (TC) signs</u>	The TC signs are a collection of non-standard traffic control (TC) signs that have been 'officially approved' as required by the <i>Transport Operations (Road Use Management) Act 1995</i> . Included in this register are the MUTCD Q-series signs.
TRUM	<u>Traffic and Road Use Management manual</u>

Relationship table

Section	Clause	Description	Applicability
1	Scope and general		
	1.1	Scope	Accepted
	1.2	Normative references	Accepted, with amendments
	1.3	Terms and definitions	Accepted
	1.3.1	<i>May</i>	Accepted
	1.3.2	<i>Shall</i>	Accepted
	1.3.3	<i>Should</i>	Accepted
	1.3.4	<i>Traffic control devices</i>	Accepted
	1.3.5	<i>Official Traffic Sign</i>	New
	1.3.6	<i>Registered Professional Engineer of Queensland (RPEQ)</i>	New
	1.3.7	<i>Innovative treatments</i>	New
	1.4	Classification of signs	Accepted
	1.5	Number of signs and sign components	
	1.5.1	<i>Signs</i>	Accepted
	1.5.2	<i>Symbols for tourist service signs</i>	Accepted
	1.6	Basic elements of signs	
	1.6.1	<i>General</i>	Accepted
	1.6.2	<i>Shape</i>	Accepted
	1.6.3	<i>Colour</i>	Accepted
	1.6.4	<i>Lettering</i>	Accepted
	1.6.5	<i>Symbols</i>	Accepted
	1.6.6	<i>Reflectorization and illumination</i>	
	1.6.6.1	General	Accepted
	1.6.6.2	Means of illumination	Accepted
	1.6.6.3	Means of reflectorization	Accepted
	1.7	Sign size	Accepted, with amendments
	1.8	Non-standard signs	Accepted, with amendments
	1.9	Responsibility and authority for installation on public roads	Accepted, with amendments
	1.10	Private roads	Accepted
	1.11	Variable message signs	New
	1.12	Location of traffic signs	New
1.12.1	<i>General</i>	New	
1.12.2	<i>Clearance to electrical infrastructure</i>	New	
1.13	Trials of traffic control devices	New	

Section	Clause	Description	Applicability
	1.14	Variation of treatments and Registered Professional Engineer of Queensland certification	New
2	Regulatory signs		
	2.1	General	Accepted
	2.2	Sign function	Accepted
	2.3	Shape, colour and message	Accepted
	2.4	Index of regulatory signs	
	2.4.1	<i>Movement series – R1</i>	Accepted, with amendments
	2.4.2	<i>Direction series – R2</i>	Accepted, with amendments
	2.4.3	<i>Pedestrian series – R3</i>	Accepted, with amendments
	2.4.4	<i>Speed series – R4</i>	Accepted, with amendments
	2.4.5	<i>Parking series – R5</i>	Accepted, with amendments
	2.4.6	<i>Miscellaneous series – R6</i>	Accepted, with amendments
	2.4.7	<i>Exclusive-use lane series – R7</i>	Accepted
	2.4.8	<i>Bicycle / pedestrian series – R8</i>	Accepted
	2.4.9	<i>Supplementary plates for general use – R9</i>	Accepted, with amendments
2.4.10	<i>Railway crossing flashing signal assembly – RX-5, RX-11</i>	New	
3	Warning signs		
	3.1	General	Accepted
	3.2	Sign function	Accepted
	3.3	Shape, colour and message	Accepted, with amendments
	3.4	Index of warning signs	
	3.4.1	<i>Alignment series – W1</i>	Accepted, with amendments
	3.4.2	<i>Intersection series – W2</i>	Accepted, with amendments
	3.4.3	<i>Advance warning of traffic control device series – W3</i>	Accepted, with amendments
	3.4.4	<i>Road width, low and narrow clearance series – W4</i>	Accepted
	3.4.5	<i>Road obstacle series – W5</i>	Accepted, with amendments
	3.4.6	<i>Pedestrian, bicycle and school series – W6</i>	Accepted, with amendments
	3.4.7	<i>Railway crossing series – W7</i>	Accepted, with amendments
	3.4.8	<i>Supplementary plate series – W8</i>	Accepted, with amendments
3.4.9	<i>Modified intersection series – W9</i>	Accepted	
4	Guide signs		
	4.1	General	Accepted
	4.2	Classification and numbering	Accepted
	4.3	Basic design	

Section	Clause	Description	Applicability
	4.3.1	<i>Shape</i>	Accepted
	4.3.2	<i>Colour</i>	Accepted
	4.4	Index of guide signs	
	4.4.1	<i>Advance direction series – G1</i>	Accepted
	4.4.2	<i>Major intersection direction (Type 1) series – G2</i>	Accepted
	4.4.3	<i>Minor intersection direction (Type 2) and (Type 3) series – G3</i>	Accepted, with amendments
	4.4.4	<i>Reassurance direction series – G4</i>	Accepted
	4.4.5	<i>Street name and pedestrian direction series – G5</i>	Accepted
	4.4.6	<i>Geographical feature series – G6</i>	Accepted
	4.4.7	<i>Service series – G7</i>	
	4.4.7.1	General	Accepted
	4.4.7.2	Symbols for services signs – GE6	Accepted, with amendments
	4.4.8	<i>Route marker series – G8</i>	Accepted
	4.4.9	<i>Traffic instruction series – G9</i>	Accepted, with amendments
	4.4.10	<i>Kilometre posts – G10</i>	Accepted
	4.4.11	<i>Tourist series – G11</i>	
	4.4.11.1	General	Accepted, with amendments
	4.4.11.2	Symbols for tourist signs	Accepted
	4.4.12	<i>Expressway direction series – GE</i>	
	4.4.12.1	Expressway advance direction series – GE1	Accepted
	4.4.12.2	Expressway exit direction series – GE2	Accepted
	4.4.12.3	Expressway reassurance direction series – GE4	Accepted, with amendments
	4.4.12.4	Expressway information series – GE6	Accepted, with amendments
	4.4.12.5	Expressway service series – GE7	Accepted, with amendments
	4.4.12.6	Expressway traffic instruction series – GE9	Accepted, with amendments
	4.4.12.7	Expressway tourist series – GE11	Accepted, with amendments
	5	Temporary signs	
5.1		General	Accepted
5.2		Sign function	Accepted
5.3		Basic design	
5.3.1		<i>Shape</i>	Accepted
5.3.2		<i>Colour</i>	Accepted
5.4		Index of signs for works on roads and temporary hazards	
5.4.1		<i>Advance series – T1</i>	Accepted, with amendments

Section	Clause	Description	Applicability
	5.4.2	<i>Position series – T2</i>	Accepted, with amendments
	5.4.3	<i>Road condition series – T3</i>	Accepted, with amendments
	5.4.4	<i>Special hazard series – T4</i>	Accepted, with amendments
	5.4.5	<i>Traffic diversion series – T5</i>	Accepted
	5.4.6	<i>Vehicle mounted series – T6</i>	Accepted, with amendments
	5.4.7	<i>Hand banner series – T7</i>	Accepted, with amendments
	5.4.8	<i>Pedestrian series – T8</i>	Accepted
	5.4.9	<i>Electronic series</i>	New
	5.4.10	<i>Multi-message series</i>	New
6	Hazard markers		
	6.1	General	Accepted
	6.2	Function	Accepted
	6.3	Basic design	Accepted
	6.4	Index of hazard markers	Accepted, with amendments
7	Multi-message signs		
	7.1	Advance signs – TM1	Accepted
	7.2	Position signs – TM2	Accepted
	7.3	Road condition signs – TM3	Accepted
	7.4	Special hazard signs – TM4	Accepted
	7.5	Traffic diversion signs – TM5	Accepted
	7.6	Pedestrian and cyclist signs – TM8	Accepted
	7.7	Event signs – TM9	Accepted
	7.8	Lane status signs – TM10	Accepted
	7.9	Temporary regulatory signs – RM	Accepted
	7.10	Temporary warning signs – WM	Accepted
	7.11	Temporary direction signs – GM	Accepted
8	Target boards for signs		New
	8.1	Introduction	New
	8.2	Size and colour	New
	8.3	Installation of target boards	New
	8.4	Removal of target boards	New
	8.5	Approval of target boards	New
Appendices			
A	Description and use of the letters and numerals (normative)		Accepted
B	Erection and removal of regulatory traffic control devices on roads controlled by Department of Transport and Main Roads		New

Section	Clause	Description	Applicability
	<i>B1</i>	<i>General</i>	New
	<i>B2</i>	<i>Example procedures for the erection or removal of permanent regulatory signs / devices (that is, for other than roadworks purposes)</i>	New
	<i>B3</i>	<i>Example procedures for variable speed limit and lane control signs</i>	New
C	Application of warrants and guidelines		New

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1 Scope and general

1.2 Normative references

Addition

The following referenced documents also apply in Queensland:

- AS 4852.1 Variable Message Signs – Fixed Signs
- AS 4852.2 Variable Message Signs – Portable Signs

For details regarding traffic signs only used in Queensland, refer:

<http://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/TC-signs>

1.3.5 Official Traffic Sign

New

A traffic control device in relation to which the methods, standards and procedures are prescribed in this *Manual* or are approved by the Director-General, Transport and Main Roads.

1.3.6 Registered Professional Engineer of Queensland (RPEQ)

New

A person who is registered as a Registered Professional Engineer of Queensland (RPEQ) under the *Professional Engineers Act 2002* (Qld) with the [Board of Professional Engineers of Queensland](#).

1.3.7 Innovative treatments

New

Innovative treatments that provide improved safety, efficiency and/or value-for-money outcomes are encouraged. Such treatments may include:

- a) innovative use of current devices
- b) alternative device layouts using existing and/or improve devices, and/or
- c) new devices or practices.

New or improved devices, treatments, or practices require approval by the Department of Transport and Main Roads (see Clause 1.14 for guidance about variations to optimal treatments) prior to their use or adoption.

For trials of new or innovative traffic control devices, treatments or practices, a submission in accordance with the requirements of Clause 1.13 shall be submitted to

TrafficEngineering.Support@tmr.qld.gov.au.

1.7 Sign size

Addition

Unless special uses for some or all of the various sizes are specified in the text accompanying a particular sign, the following general principles should be observed when selecting sign size:

- a) For regulatory, warning and traffic instructions, the smallest designated available size should normally be used:
 - i. only where the 85th percentile approach speed is less than 70 km/h
 - ii. where prominence or conspicuity of the sign is not affected by competing visual stimuli, and
 - iii. where lateral displacement of the sign from the driver's path is not excessive.
- b) Progressively larger signs in these categories should be used:
 - i. as approach speeds become higher
 - ii. where a greater need exists for sign prominence due either to competing visual stimuli or the need to emphasise the message, or
 - iii. where there is excessive lateral displacement of the sign.

The largest available sizes should be used on freeways.

Where one sign supplements another, the two signs should be the same width. With the exception of the Times of Operation supplementary plate (R9-1), this means that the same size designation; that is, A, B, C and so on, should be used for both signs. When the Times of Operation supplementary plate (R9-1) is used with Bus, Truck or Bicycle Lane (R7-1) signs, the former should be one size designation smaller than the lane sign so that the widths are equal.

1.8 Non-standard signs

Addition

Authorities responsible for the erection of signs are not encouraged to develop signs for their own particular use; however, there may be instances where no suitable standard sign exists. In such cases, the following procedures will apply to requests for special non-standard signs:

- a statement giving the detailed nature of the problem
- a description of the proposed sign, how it was developed, the manner in which it deviates from the *Manual*, and how it is expected to be an improvement over the existing standard
- an illustration of the proposed sign, taking into account the shape, colours, reflectorisation, size and series of letters, size of sign and legend.

Any sign developed in this manner should comply with the design requirements specified in this *Manual* for the particular sign classification.

Once the design of a non-standard sign has been determined, it shall be approved by the Director-General, Transport and Main Roads as an Official Traffic Sign prior to erection on a road.

Guidance on the trial application of traffic control devices in a manner contrary to the criteria outlined in this *Manual* is provided in Clause 1.13.

For details regarding traffic signs developed specifically for use in Queensland, refer to [TC signs](#).

1.9 Responsibility and authority for installation on public roads

Addition

The *Transport Operations (Road Use Management) Act 1995* (Qld) provides that Official Traffic Signs shall be installed only by the authority of the Director-General, Transport and Main Roads or a local government. The Act also provides that any such sign shall be installed in accordance with the methods, standards and procedures prescribed in this *Manual*, or other duly approved documents.

1.11 Variable message signs

New

Variable Message Signs (VMS) are designed to have one or more messages that may be displayed or deleted as required. Such a sign may be changed manually, by remote control or by automatic controls that can 'sense' the conditions that require special sign messages.

VMS shall comply with the following standards:

- AS 4852.1 Variable Message Signs – Fixed Signs.
- AS 4852.2 Variable Message Signs – Portable Signs.

It is essential that variable message signs comply with the principles established in this *Manual* and, to the extent practicable, with the design requirements and applications prescribed herein.

1.12 Location of traffic signs

1.12.1 General

New

Traffic control devices shall be installed in accordance with the relevant requirements specified in each Part of this Manual.

For general installation criteria, refer to Appendix D of the Queensland MUTCD Part 2. Criteria specific to direction signs in given is Appendix D of the Queensland MUTCD Part 15.

1.12.2 Clearance to electrical infrastructure

New

Traffic control devices shall not be installed within the clearance for electrical infrastructure. Minimum clearances are defined in the Queensland Electrical Safety Regulation 2013, these clearances shall be adhered to.

Minimum clearances are summarised in Transport and Main Roads Standard Drawing 1333 *Traffic signals / Road Lighting / ITS – Minimum Clearance of Overhead Electric Lines from Ground and Structures*.

1.13 Trials of traffic control devices

New

Trials of new traffic control devices or the application of existing devices in a manner contrary to the criteria in this *Manual* can be undertaken in accordance with this Clause.

The Department of Transport and Main Roads may issue an 'approved notice' under Section 166(2) of the *Transport Operations (Road Use Management) Act 1995* to install and maintain a traffic control device for trial purposes. An application for a trial must encompass sufficient information to allow an informed decision to be made, including:

- a) the purpose of the trial
- b) the place where the trial is to be held
- c) the period of the trial (not exceeding two years)
- d) the terms and conditions of the trial, and
- e) details of the proposed traffic control devices to be used (traffic control devices developed for use in the trial must comply with the design and location principles outlined in Clauses 1.7, 1.8, 1.9 and 1.12 of this *Manual*).

The department may impose any other terms and conditions that are considered necessary, including, for example, a requirement to advertise details of the trial in a local newspaper in which the trial is to be held.

1.14 Variation to treatments and Registered Professional Engineer of Queensland certification

New

This Part of the *Manual* contains mandatory requirements (*shall*), recommendations (*should*) and options (*may*). The application of these mandatory requirements and recommendations is intended to provide the optimal level of safety and traffic efficiency. It is acknowledged that, in some instances, variations to these requirements and recommendations may be necessary and, as such, variations to these requirements and recommendations may be undertaken as follows:

- a) Where recommendations (*should*) are not adopted, a risk assessment shall be undertaken and certified by a Registered Professional Engineer of Queensland (RPEQ).
- b) Where mandatory requirements (*shall*) are not adopted, a risk assessment shall be undertaken and certified by an RPEQ.

Notifications of variations to mandatory requirements (including all relevant information) shall be emailed to TrafficEngineering.Support@tmr.qld.gov.au for information purposes and for the benefit of identifying potential future practice changes – not for approval or endorsement. These variations may include learnings that may be attributed to the variation of a *shall* requirement, such as operational, cost or safety impacts.

- c) Where innovative treatments (see Clause 1.3.7) that are outside the scope of the Queensland MUTCD are proposed to be adopted, a risk assessment shall be undertaken and certified by an RPEQ.

- d) All proposed innovative treatments require approval by Transport and Main Roads prior to their use or adoption. Requests for approval of innovative treatments (including all relevant information) shall be emailed to TrafficEngineering.Support@tmr.qld.gov.au. As part of an approval to use or trial an innovative treatment, Transport and Main Roads may require that the application provides a detailed evaluation report on the performance and effectiveness of the treatment. Transport and Main Roads may use the results of the evaluation to identify potential future practice changes to this Part of the *Manual*.
- e) The use of options (*may*) is not a variation to the optimal treatment and does not require certification by an RPEQ.


2 Regulatory signs

2.4 Index of regulatory signs

2.4.1 Movement series – R1

Addition

The following signs may be used in Queensland:

	R1-2-Q01	GIVE WAY – CANE TRAMS ONLY	Queensland MUTCD Part 7
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2.4.2 Direction series – R2


Deletion




The following signs are **not used** in Queensland:

R2-20	Left Turn on Red Permitted after Stopping
R2-21	Hook Turn Only

Addition

The following signs may be used in Queensland:

	R2-3-Q01	KEEP LEFT	Queensland MUTCD Part 3
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	R2-3-Q02	KEEP LEFT (various sizes)	
	R2-9-Q01	RIGHT LANE MUST U-TURN	Queensland MUTCD Part 2
	R2-Q02(L)	THROUGH TRAFFIC KEEP LEFT/RIGHT	Queensland MUTCD Part 2

2.4.3 Pedestrian series – R3


Deletion

The following sign is **not used** in Queensland:

R3-4	Children Crossing 40, when lights flashing
------	--

Addition


The following sign may be used in Queensland:


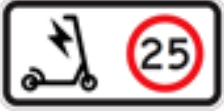





	R3-Q01	WALK TO ISLAND AND WAIT FOR FURTHER SIGNAL	TRUM Vol 1 Part 4
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2.4.4 Speed series – R4

Addition

The following signs may be used in Queensland:

	R4-4-Q01	MAXIMUM SPEED FOR PERSONAL MOBILITY DEVICES	Queensland MUTCD Part 4
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	R4-4-Q02	MAXIMUM SPEED FOR PERSONAL MOBILITY DEVICES ON PATH	Queensland MUTCD Part 4
	R4-4-Q03	MAXIMUM SPEED FOR PERSONAL MOBILITY DEVICES	Queensland MUTCD Part 4
	R4-Q01	SCHOOL ZONE Speed Limit	Queensland MUTCD Part 4
	R4-Q03	SCHOOL ZONE AHEAD SPEED LIMIT	Queensland MUTCD Part 4
	R4-Q04	SCHOOL ZONE SPEED LIMIT (Double Arrow)	Queensland MUTCD Part 4
	R4-Q09	SPEED LIMIT BRIDGE DAMAGE CONTROL	Queensland MUTCD Part 4
	R4-Q05	ROAD TRAIN SPEED LIMIT	Queensland MUTCD Part 4


	R4-Q06	END ROAD TRAIN SPEED LIMIT	Queensland MUTCD Part 4
	R4-Q07	HOSPITAL ZONE	Queensland MUTCD Part 4
	TC1783	ENHANCED SCHOOL ZONE SPEED LIMIT SIGN – ALL DAY TIMES	Queensland MUTCD Part 4
	TC1797	SPEED LIMIT HAZARD	Queensland MUTCD Part 4
	TC2366	Orange Target Board to the standard Speed Restriction sign (R4-1_ with a ROAD WORK supplementary plate (R4-3-	Queensland MUTCD Part 3

2.4.5 Parking series – R5

Addition

The following signs may be used in Queensland:

	R5-Q01	TOW-AWAY ZONE	Queensland MUTCD Part 11
	R5-Q07	ELECTRIC VEHICLES CHARGING STATION (PAVEMENT SYMBOL)	Queensland MUTCD Part 6

	R5-40-Q01-2	NO PARKING, ELECTRIC VEHICLES EXCEPTED WHILE CHARGING	Queensland MUTCD Part 6
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2.4.6 Miscellaneous series – R6

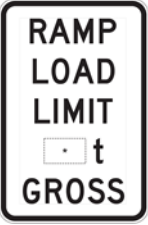



Deletion



The following sign is **not used** in Queensland:

R6-26	TRAMWAY CROSSING Position
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Addition

The following signs may be used in Queensland:





	R6-3-Q01	RAMP LOAD LIMIT x t GROSS	Queensland MUTCD Part 2
	R6-8-Q01	STOP / SLOW HAND BANNER	Queensland MUTCD Part 3
	R6-28-Q01	TRUCKS & BUSES USE LEFT LANE	Queensland MUTCD Part 2
	R6-33-Q01	OVERALL WIDTH LIMIT x m	Queensland MUTCD Part 2

	R6-Q03	AUTHORISED BUSES ONLY BEYOND THIS POINT	
	R6-Q05	PERSONAL MOBILITY DEVICES PROHIBITED	

2.4.9 Supplementary plates for general use – R9

Addition

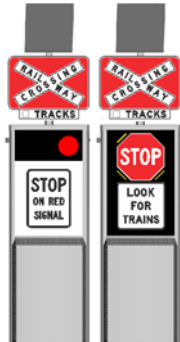

The following signs may be used in Queensland:

	R9-Q04_1	... EXCEPTED (1 Line)	Queensland MUTCD Part 2
	R9-Q04_2	... EXCEPTED (2 Line)	Queensland MUTCD Part 2
	R9-Q04_3	... EXCEPTED (3 Line)	Queensland MUTCD Part 2
	R9-Q05(L)	ON SIDE ROAD (L/R)	Queensland MUTCD Part 2

2.4.10 Railway crossing flashing signal assembly – RX-5, RX-11

New

The following signs may be used in Queensland:

 <p>The image shows two vertical signal posts. Each post has a red 'RAILWAY CROSSING' sign with a white 'X' and 'TRACKS' below it. Below the sign is a red circular light. The left post has a white sign that says 'STOP ON RED SIGNAL'. The right post has a red octagonal 'STOP' sign with a white border and the text 'LOOK FOR TRAINS' below it.</p>	RX-5-Q01	RAILWAY CROSSING ASSEMBLY – ACTIVE TRACKSIDE ROAD SIGN	Queensland MUTCD Part 7
 <p>The image shows two vertical signal posts. Each post has a yellow diamond-shaped sign with a black border and a red circle with a black dot in the center. Below the sign is a red sign that says 'PREPARE TO STOP'. The left sign also has a black arrow pointing up.</p>	RX-11-Q01	RAILWAY CROSSING ASSEMBLY – ACTIVE EARLY WARNING SIGN	Queensland MUTCD Part 7

3 Warning signs

3.3 Shape, colour and message

Addition

As warning signs are placed primarily for the protection of the driver who is not familiar with the road, it is very important that proper judgment be exercised in their location and erection. Warning signs should generally be placed in advance of the hazard as specified in the typical arrangement diagrams included in this *Manual*. Elsewhere, they should be located a distance A in advance of the hazard.

V₈₅ (km/h)	A (m)
<75	80–120
75–90	120–180
>90	180–250


However, in urban areas (for example, where cross streets are closely spaced) this distance may be reduced to a minimum of 30 m. The actual advance warning distance will be determined by factors such as legibility of the sign, nature of the hazard and the prevailing speed. These factors relate to the time available to the driver to comprehend and react to the message and the time needed by the driver to perform any necessary manoeuvre. Test runs should be made by day and by night to check the location and mounting of each installation.

3.4 Index of warning signs

3.4.1 Intersection series – W1

Addition


The following sign may be used in Queensland:

	W1-8-Q01	Tilting Truck	Queensland MUTCD Part 2
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3.4.2 Intersection series – W2

Addition



The following sign may be used in Queensland:

	W2-Q01(L)	Successive Side Road Junction (L/R)	Queensland MUTCD Part 2
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3.4.3 Advance warning of traffic control device series – W3

Addition


The following sign may be used in Queensland:











	W3-Q01	Signals Ahead	Queensland MUTCD Part 14
	TC2353	NEW SPEED LIMIT AHEAD	Queensland MUTCD Part 4









3.4.5 Road obstacle series – W5

Addition

The following signs may be used in Queensland:

	W5-36-Q01	EMERGENCY VEHICLES	Queensland MUTCD Part 2
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	W5-50-Q01		
	W5-Q04	DRIFT SAND	Queensland MUTCD Part 2
	W5-Q05	SOFT EDGES	Queensland MUTCD Part 2
	W5-Q07	CANE HAULING AHEAD	Queensland MUTCD Part 2
	W5-Q09	RUMBLE STRIPS	
	W5-Q10	WANDERING STOCK NEXT x km (example)	Queensland MUTCD Part 2
	W5-Q11	Boom Barrier	Queensland MUTCD Part 2
	W5-Q12	High Wind Area	Queensland MUTCD Part 2
	W5-Q13	Queued Traffic	Queensland MUTCD Part 2
	W5-Q14	Buses	Queensland MUTCD Part 2

	W5-Q15	WEAVING TRAFFIC	Queensland MUTCD Part 2
	W5-Q16	OVERHEAD WIRES	Queensland MUTCD Part 2
	W5-Q17	SLOW TURNING TRAFFIC	Queensland MUTCD Part 2
	W5-Q18	RECENT CROSSINGS (example)	Queensland MUTCD Part 2
	W5-Q19	CONSERVATION AREA FOR WILDLIFE NEXT x km	Queensland MUTCD Part 2
	W5-Q20	CARE FOR OUR WILDLIFE (example)	Queensland MUTCD Part 2
	W5-Q21	CARE FOR OUR ISLAND'S WILDLIFE	Queensland MUTCD Part 2
	W5-Q22	Fauna Aerial Bridge	Queensland MUTCD Part 2

3.4.6 Pedestrian, bicycle and school series – W6

Addition

The following signs may be used in Queensland:

	W6-Q01	NATIONAL TRAIL Crossing	Queensland MUTCD Part 6
	W6-Q02	National Trail ROAD CROSSING	Queensland MUTCD Part 6
	W6-Q03	TRAIL crossing	Queensland MUTCD Part 6
	W6-Q04_1	CYCLIST / MOTORIST SEPARATION 60 km/h OR LESS SPEED ZONE	Queensland MUTCD Part 9
	W6-Q04_2	CYCLIST / MOTORIST SEPARATION GREATER THAN 60 km/h SPEED ZONES	Queensland MUTCD Part 9
	W6-Q05	RETROFIT BICYCLE LANE IN A LEFT TURN LANE	Queensland MUTCD Part 9
	W6-Q06_1	NARROW SHOULDER AHEAD	Queensland MUTCD Part 9








	W6-Q06_2	SHARED PATH ... km / IN TRAFFIC ... km	Queensland MUTCD Part 9
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3.4.7 Railway crossing series – W7

Addition

The following signs may be used in Queensland:

	W7-13-Q01_1	Railway Level Crossing Warning Sign	Queensland MUTCD Part 7
	W7-13-Q01_2	Railway Level Crossing Warning Sign	Queensland MUTCD Part 7
	W7-13-Q01_3	Railway Level Crossing Warning Sign	Queensland MUTCD Part 7
	W7-13-Q01_4	Railway Level Crossing Warning Sign	Queensland MUTCD Part 7
	W7-13-Q01_5	Railway Level Crossing Warning Sign	Queensland MUTCD Part 7
	W7-13-Q01_6	Railway Level Crossing Warning Sign	Queensland MUTCD Part 7
	W7-13-Q01_7	Railway Level Crossing Warning Sign	Queensland MUTCD Part 7








 <p>KEEP TRACK CLEAR</p>	W7-Q01_1	Railway Level Crossing Warning Sign – Short Stacking	Queensland MUTCD Part 7
 <p>KEEP TRACK CLEAR</p>	W7-Q01_2	Railway Level Crossing Warning Sign – Short Stacking	Queensland MUTCD Part 7
 <p>KEEP INTERSECTION CLEAR</p>	W7-Q01_3	Railway Level Crossing Warning Sign – Short Stacking	Queensland MUTCD Part 7
 <p>KEEP TRACK CLEAR</p>	W7-Q01_4	Railway Level Crossing Warning Sign – Short Stacking	Queensland MUTCD Part 7
 <p>KEEP ROUNDABOUT CLEAR</p>	W7-Q01_5	Railway Level Crossing Warning Sign – Short Stacking	Queensland MUTCD Part 7
 <p>KEEP ROUNDABOUT CLEAR</p>	W7-Q01_6	Railway Level Crossing Warning Sign – Short Stacking	Queensland MUTCD Part 7
 <p>KEEP ROUNDABOUT CLEAR</p>	W7-Q01_7	Railway Level Crossing Warning Sign – Short Stacking	Queensland MUTCD Part 7









	W7-Q02_1	Use Emergency Bay	Queensland MUTCD Part 7
	W7-Q02_2	Wait in Turn Lane	Queensland MUTCD Part 7
	W7-Q03	Limited Clearance to Rails	Queensland MUTCD Part 7

3.4.8 Supplementary plate series – W8

Addition

The following signs may be used in Queensland:

	W8-Q01	CANE RAILWAY	Queensland MUTCD Part 7
	W8-Q02	CROSSING 300 m	Queensland MUTCD Part 6
	W8-Q03	BUS STOP	QRSTUV: <i>Guide to Schools</i>
	W8-Q05	WAIT TILL ROAD CLEAR	Queensland MUTCD Part 6
	W8-Q06	WATCH FOR TRAFFIC	Queensland MUTCD Part 6
	W8-Q11	SHARE THE ROAD	Queensland MUTCD Part 9
	W8-Q12	WATCH FOR TRUCKS	Queensland MUTCD Part 2

	W8-Q13	WANDERING STOCK	Queensland MUTCD Part 2
	W8-Q14	HIGH WIND AREA	Queensland MUTCD Part 2
	W8-Q15	CANE VEHICLE CROSSING	Queensland MUTCD Part 2
	W8-Q16	BOATS LOWER MASTS	Queensland MUTCD Part 2
	W8-Q17	CLEARANCE x m	Queensland MUTCD Part 2
	TC2352	NEW LIMIT	Queensland MUTCD Part 4
	W8-Q18	1300 ANIMAL Supplementary plate	Queensland MUTCD Part 2
	W8-Q19	ANIMAL NAME NEXT x km	Queensland MUTCD Part 2


4 Guide signs

4.4 Index of guide signs

4.4.3 Minor intersection direction (Type 2) and (Type 3) series – G3

Addition

The following sign may be used in Queensland:









	G3-4-Q01	Overhead sign on structures	Queensland MUTCD Part 5
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4.4.7 Service series – G7

4.4.7.2 Symbols for service signs

Addition

The following signs may be used in Queensland:

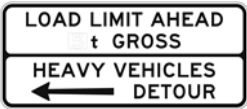





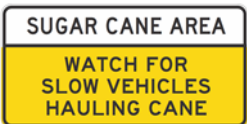

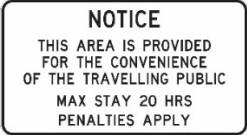
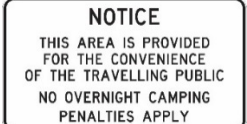
	S14-Q01	Parking Area – Train	Queensland MUTCD Part 6
	S14-Q02	Parking Area – Bus	Queensland MUTCD Part 6
	S14-Q03	Parking Area – Ferry	Queensland MUTCD Part 6
	S14-Q04	Parking Area – Light Rail	Queensland MUTCD Part 6
	SQ01	Train	Queensland MUTCD Part 6
	SQ02	Bus	Queensland MUTCD Part 6
	SQ03	Ferry	Queensland MUTCD Part 6
	SQ04	Visitor information centre	Queensland MUTCD Part 6








	SQ06	Unsuitable for caravans	Queensland MUTCD Part 6
	SQ07	Electric vehicle charging station	Queensland MUTCD Part 6
	SQ08	Light rail	Queensland MUTCD Part 6
	SQ09	University campus	
	SQ10	Swimming enclosure	






4.4.9 Traffic instruction series – G9

Addition

The following signs may be used in Queensland:

	G9-4-Q01(L)	LOAD LIMIT AHEAD x t GROSS / HEAVY VEHICLES DETOUR (L/R)	Queensland MUTCD Part 2
	G9-21-1-Q01(R)	ON SIDE ROAD(L/R)	Queensland MUTCD Part 2
	G9-32-Q01	CANE RAILWAY CROSSINGS FOR ...km	Queensland MUTCD Part 7
	G9-32-Q02	END OF CANE RAILWAY CROSSINGS	Queensland MUTCD Part 7
	G9-67-Q01	KEEP INTERSECTION CLEAR	Queensland MUTCD Part 2
	G9-90-Q01	EMERGENCY STOPPING BAY & HELP PHONE x m AHEAD	Queensland MUTCD Part 2
	G9-Q03_1	SUGAR CANE AREA / WATCH FOR SLOW VEHICLES HAULING CANE	Queensland MUTCD Part 2
	G9-Q03_2	SUGAR CANE AREA / SLOW VEHICLES	Queensland MUTCD Part 2
	G9-Q05-1	Rest Area NOTICE	Queensland MUTCD Part 6
	G9-Q05-2	Rest Area NOTICE	Queensland MUTCD Part 6

 <p>FASTEN SEAT BELTS</p>	G9-Q09	FASTEN SEAT BELTS	QGRS Part 2
 <p>CROSS WITH CARE DO NOT CROSS START TO CROSS WITH CARE COMPLETE CROSSING DO NOT START TO CROSS</p>	G9-Q10-1	(Pedestrians) CROSS WITH CARE	Queensland MUTCD Part 14
 <p>CROSS WITH CARE DO NOT CROSS START TO CROSS WITH CARE 15 TIME LEFT TO COMPLETE CROSSING DO NOT START TO CROSS</p>	G9-Q10-2	(Pedestrians) CROSS WITH CARE	Queensland MUTCD Part 14
 <p>LANE UNDER 'X' CLOSED</p>	G9-Q12	LANE UNDER 'X' CLOSED	Queensland MUTCD Part 14
 <p>OVERTAKING NOT PERMITTED</p>	G9-Q14_1	OVERTAKING NOT PERMITTED	Queensland MUTCD Part 2
 <p>OVERTAKING NOT PERMITTED</p>	G9-Q14_2	OVERTAKING NOT PERMITTED	Queensland MUTCD Part 2
 <p>OVERTAKING PERMITTED WHEN SAFE</p>	G9-Q14_3	OVERTAKING PERMITTED WHEN SAFE	Queensland MUTCD Part 2



	G9-Q14_4	OVERTAKING PERMITTED WHEN SAFE	Queensland MUTCD Part 2
	TC1559	TAKE CARE HIGH CRASH ZONE NEXT ...km (Example)	Queensland MUTCD Part 4
	TC1638	WHEELIE BIN SPEED REMINDER STICKER	Queensland MUTCD Part 4
	TC2320	SPEED CAMERAS USED AT ROADWORKS FOR ROAD SAFETY	Queensland MUTCD Part 3
	TC2367	Orange Target Board to the standard Speed Limit AHEAD sign (G9-79) with a ROAD WORK supplementary plate (R4-3)	Queensland MUTCD Part 3



4.4.11 Tourist Series – G11

4.4.11.1 General

Addition

The following signs may be used in Queensland:

	G11-Q01	NATIONAL TRAIL directional sign	Queensland MUTCD Part 6
	G11-Q02	Special Tourist Sign	Queensland MUTCD Part 6
	G11-Q03	TOWN WELCOME SIGN WITH IMAGE ONLY	Queensland MUTCD Part 6


	G11-Q04	TOURIST INFORMATION SIGN 'WELCOME TO THE [...]' (1 LINE)	Queensland MUTCD Part 6
	G11-Q05	WELCOME TO QUEENSLAND – FOR NON-STATE STRATEGIC TOURING ROUTE	Queensland MUTCD Part 6

4.4.12 Expressway direction series – GE

4.4.12.3 Expressway reassurance direction series – GE4

Addition


The following signs may be used in Queensland:

	GE4-1-Q01	Interchange sequence, Service centre	Queensland MUTCD Part 6
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4.4.12.4 Expressway information series – GE6

Addition

The following signs may be used in Queensland:

	GE6-Q08	Motorway service centres Next Exit / Next service ...km	Queensland MUTCD Part 6
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4.4.12.5 Expressway service series – GE7Addition

The following signs may be used in Queensland:

	GE7-3-Q01	SERVICE CENTRE ... km – with logos	Queensland MUTCD Part 6
	GE7-3-Q02	SERVICE CENTRE ... km LEFT LANE – with logos	Queensland MUTCD Part 6
	GE7-3-Q03	SERVICE CENTRE NEXT EXIT	Queensland MUTCD Part 6

4.4.12.6 Expressway traffic instruction series – GE9Addition



The following signs may be used in Queensland:

	GE9-Q02	MOTORWAY ENTRY RESTRICTED WHEN FLASHING	Queensland MUTCD Part 14
	GE9-Q03	ONE VEHICLE ONLY ON GREEN SIGNAL	Queensland MUTCD Part 14
	GE9-Q04	ONE VEHICLE PER LANE ON GREEN SIGNAL	Queensland MUTCD Part 14

4.4.12.7 Expressway tourist series – GE11

Addition

The following signs may be used in Queensland:

	GE11-Q01_2	LOCAL TOURIST AREA "ACCESS TO ... TURN ... m" (LOCAL ROADS)	Queensland MUTCD Part 6
	GE1-15-Q01_1	TOURIST ROUTE DIRECTION SIGN – DIAGRAMMATIC	Queensland MUTCD Part 6






5 Temporary signs




5.4 Index of signs for works on roads and temporary hazards

5.4.1 Advance series – T1

Addition

The following signs may be used in Queensland:




	T1-23-Q01	CHANGED TRAFFIC CONDITIONS	Queensland MUTCD Part 2
	T1-Q06	ROADWORK AHEAD	Queensland MUTCD Part 3
	T1-Q07	ROADWORK ON SIDE ROAD (arrow)	Queensland MUTCD Part 3
	T1-Q08	LINEMARKERS ON ROAD	Queensland MUTCD Part 3
	T1-Q09	MOBILE LINEMARKING AHEAD	Queensland MUTCD Part 3

	T1-Q10	Tractor / Slasher MOWING	Queensland MUTCD Part 3
	TC1992_1	TURN ON HAZARD LIGHTS WHEN QUEUED	Queensland MUTCD Part 3
	TC2361	ROADWORK SPEED LIMITS ARE ENFORCED / CAMERA SYMBOLIC	Queensland MUTCD Part 3

5.4.2 Position series – T2

Addition



The following signs may be used in Queensland:

	T2-4-Q02	ROAD CLOSED ...km AHEAD	Queensland MUTCD Part 3
	T2-Q07	Lane Status (4 lane)	Queensland MUTCD Part 3
	TC1992_2	TURN OFF HAZARD LIGHTS	Queensland MUTCD Part 3

5.4.3 Road condition series – T3

Addition



The following signs may be used in Queensland:

	T3-Q02	Traffic Signal NOT IN USE	Queensland MUTCD Part 3
	T3-Q03	SIGNALS UNDER REPAIR	Queensland MUTCD Part 3

5.4.4 Special hazard series – T4

Addition





The following signs may be used in Queensland:

	T4-Q03	DANGER GAS NO SMOKING
	T4-Q04	ELECTRIC WIRES DOWN

5.4.6 Vehicle mounted series – T6

Addition


The following signs may be used in Queensland:

	T6-Q01	ROAD TRAIN	Queensland MUTCD Part 2
	T6-Q03	OVERSIZE	Queensland MUTCD Part 2
	T6-Q04	OVERSIZE LOAD AHEAD	Queensland MUTCD Part 2
	T6-Q08	WET PAINT with Chevrons	

5.4.7 Hand banner series

Addition

The following signs may be used in Queensland.

	T7-1-Q01	STOP / SLOW HAND BANNER	Queensland MUTCD Part 3
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5.4.9 Electronic series

New

The following signs may be used in Queensland.

	R2-4-Q01_1	ROAD CLOSED – NO ENTRY	Queensland MUTCD Part 3
	R2-4-Q01_2	ROAD CLOSED – NO ENTRY DUE TO FLOODING	Queensland MUTCD Part 3
	T1-Q26_3	ROAD CLOSED X km AHEAD DUE TO FLOODING	Queensland MUTCD Part 3
	T2-4-Q03	(NAMED) ROAD CLOSED DUE TO FLOODING	Queensland MUTCD Part 3
	TM1-46-Q01_1	QUEUED TRAFFIC AHEAD PREPARE TO STOP	Queensland MUTCD Part 3
	TM1-46-Q01_2	QUEUED TRAFFIC AHEAD PREPARE TO STOP	Queensland MUTCD Part 3
	TM1-Q01_1	REDUCE SPEED	Queensland MUTCD Part 3
	TM1-40-Q01_1	LINE MARKERS AHEAD	Queensland MUTCD Part 3

5.4.10 Multi-message series

New


For multi-message signs at roadworks, refer to Appendices A, C and D in Part 3 of the Queensland MUTCD.

6 Hazard markers

6.4 Index of hazard markers

Addition

The following signs may be used in Queensland:

	D4-7-Q01	Curve Alignment Marker x km/h	Queensland MUTCD Part 2
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8 Target boards for signs

8.1 Introduction

New

Target boards may be used where the conspicuity of a sign needs to be increased as identified in the following situations:

- where the general environmental background colour is similar to a traffic sign colour; or
- where roadside features such as similarly-coloured advertising signs, including billboards, could reduce the effect of a traffic sign or render it less distinguishable.

Part 10 of the Austroads *Guide to Traffic Management* acknowledges that contrasting fluorescent material may be used as a target board or border to improve the conspicuity of regulatory, warning or important guide signs.

8.2 Size and colour

New

The target board should increase the overall sign face width and height by a minimum of 15% and a maximum of 20%. This increase in dimensions is indicative. Less than 15% will not usually provide enough definition, separation and contrast to warrant the installation of a target board in the first place. Edge margins greater than 20% are not likely to increase the visual effect of the sign, compared to a sign which has a target board that increases its dimensions by about 20%.





Target boards are always rectangular and do not match the shape of the base sign. Target board edge strips should generally be the same shape as the sign being enhanced (for example, octagonal for a STOP (R1-1) sign, triangular for GIVE WAY (R1-2) sign and circular for a pedestrian crossing (R3-1) symbolic sign).

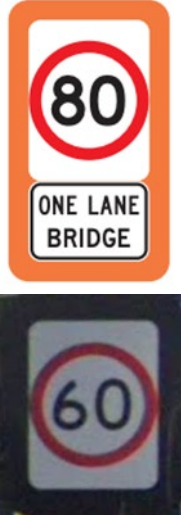


Target boards and target board edge strips should only be initiated when there is evidence or likelihood of motorists having difficulty in seeing or reading a traffic sign.

Table 8.2 identifies the appropriate use of different coloured target boards and target board edge strips for specific applications.

Target boards may be red, yellow, green or white. Target board edge strips may be fluorescent orange or black. Table 8.2 provides information on the colour of target board and target board edge strip.

Table 8.2 – Applications of signing target boards

Sign / Situation	Colour	Sign examples
Special warning signs		
<p>Safety critical applications where there is a need to enhance warning signs or to better identify potential road safety issues</p>	<p>Retroreflective red or yellow target board.</p> <p>Warning signs and supplementary plates (if required) are to be yellow.</p> <p>Extra text if required (REDUCE SPEED, PREPARE TO STOP, TURNING TRAFFIC and so on) shall be in white font on the red background.</p> <p>Flashing lights may also be installed in some circumstances.</p>	
School zones		
<p>Combined fluorescent / retroreflective materials as target board edge strips shall be limited to school zone signs to maintain their high-impact effectiveness.</p>	<p>Retroreflective fluorescent yellow green sign/s with retroreflective fluorescent orange target board edge strip.</p>	
Special advance warning signs		
<p>Application of this device is restricted to locations where a higher-impact sign is warranted, and a road name plate is to be included.</p>	<p>Retroreflective green target board with warning (and supplementary signs if required) in yellow. The road name plate is in the standard colours.</p>	
Wildlife warning signs		
<p>High-impact wildlife warnings signs should be used selectively at hotspot locations or areas with significant conservation value. The white target board provides a good contrast to the green background effect of trees, improving sign conspicuity.</p>	<p>Retroreflective white target board with retroreflective green border.</p> <p>Warning signs and supplementary plates are to be yellow (if required).</p> <p>Refer Queensland MUTCD Part 2 for further information.</p>	

Sign / Situation	Colour	Sign examples
Target board edge strips		
<p>In areas with low light or fog conditions where sign visibility needs to be enhanced. The fluorescent orange target board edge strip is only to be used with regulatory signs or safety critical signs. Examples include reduced speed limit signs, GIVE WAY signs and STOP signs. In other cases, to increase the conspicuity of the sign, black target board edge strip may be used.</p>	<p>Retroreflective fluorescent orange target board edge strip (other than for school zones, where a fluorescent target edge board is used, the sign shall be non-fluorescent). See Section 8.5.</p>	
Target board to multi-message sign frame		
<p>High-visibility awareness of multi-message signs used temporarily at roadwork sites</p>	<p>Retroreflective fluorescent orange target board edge strip for multi-message sign frames</p>	
Special information or warning signs		
<p>Application of this device restricted to locations where greater conspicuity is needed, and a higher-impact sign is warranted.</p>	<p>Retroreflective yellow target board. Other signs on the target board are to be in their standard colours.</p>	

8.3 Installation of target boards

New

The installation of target boards should be in the same manner as the installation of standard signs, in accordance with the Queensland *Manual of Traffic Control Devices*. The target board or edge strip may be affixed to the back of standard signs or manufactured as part of the sign.

8.4 Removal of target boards

New

If separately installed, target boards should be removed only when their presence does not improve the legibility or visibility of the standard traffic sign to which they are attached. Signs with integral target boards or edge strips should be removed and replaced with standard signs if the same conditions prevail.

8.5 Approval of target boards for signs

New

Approval of target boards and edge strips is not subject to the normal approval process that applies to official traffic signs. The target board and edge strip does not affect the functionality and meaning of the sign; it merely increases the sign's conspicuity.

Where target boards or edge strips may be considered necessary for installation on a regulatory sign to address a road safety deficiency, the Safer Roads Infrastructure team should be consulted. Contact SaferRoads@tmr.qld.gov.au.

Appendices

Appendix B – Erection and removal of regulatory traffic control devices on roads controlled by Department of Transport and Main Roads

B1 General

New

An essential adjunct to the erection or removal of any regulatory sign / device, is the recording and filing of the circumstances for use in connection with any prosecutions or litigation resulting from traffic offences, or traffic accidents, in the area of the particular sign / device. This procedure particularly applies when regulatory signs / devices are used as a traffic control aid at, or adjacent to, road construction and maintenance work sites.

This Appendix outlines example procedures for the erection and removal of permanent signs and devices. Variations to these procedures can be implemented to address Quality Management and Administration Practices. Procedures for the erection and removal of temporary signs and devices are given in Part 3 of this *Manual, Traffic Control for Works on Roads*.

B2 Example procedures for the erection or removal of permanent regulatory signs / devices (that is, for other than roadworks purposes)

New

The example procedures are as follows:

- a) Prior to the placement or removal of regulatory signs / devices, a Form M994 should be completed.
- b) The original Form M994 should be filed on a Region Register.
- c) A Form M994 is not required when a damaged or deteriorated sign / device is removed and replaced by a new one of the same size and type, providing the replacement is erected in the same location as the old sign / device.

NOTES:

1. Permanent signs and markings plans for a project, suitably annotated, may be used in lieu of Form M994.
2. Permanent speed limit changes and other regulatory signs and devices may alternatively be recorded on the authority's road database system, where appropriate. Time and date of installation is required.

B3 Example procedures for variable speed limit and lane control signs

New

The example procedures are as follows:

Initial installation

- a) A Form M994 should be completed covering the multiple devices at each location.
- b) The form should record the speed limits capable of being displayed.
- c) The form should be filed on a Region Register.

Operation

- a) A Form M994 is not required for every speed limit or lane control change. Some form of data recording is still required for evidentiary purposes.

Appendix C – Application of warrants and guidelines-

New

Traffic operation is facilitated by efficient control devices, but these devices must be selected and used following scientific investigation, not subjective assessment.

A proper evaluation embraces the measurement of certain factors, such as traffic volume, and a close engineering study of the environment to ascertain firstly, if there is a need for control in a particular situation, and secondly, the type of control device which should be used.

Long experience has established the respective conditions under which the many traffic control devices are justified. These conditions, called warrants or guidelines, may comprise quantitative figures or other general requirements at the site concerned. Established warrants and guidelines for the installation of control devices are prescribed in the *Manual*.

The use of warrants and guidelines is to ensure that:

- a) control devices are installed where the need has been proven, and only in such situations
- b) the most efficient treatment is provided for any given set of conditions, and
- c) standard treatment is employed at similar situations.

However, even if a formal warrant or guideline is satisfied in a particular instance, it does not necessarily follow that the relevant traffic control device should be installed on that basis alone. The justification for the installation of a particular device often involves a number of elements; some incapable of being expressed in quantitative terms. To attempt to include all such elements in formal warrants or guidelines would be impractical, and therefore the final decision must involve proper engineering judgement.

There will occur, in practice, many cases where a particular form of control would be best suited to the local conditions, although the requirements of the formal warrant or guideline may indicate otherwise. In some cases, it may be advisable to refrain from imposing a particular type of control, although the prescribed warrant or guideline may be met. In other instances, some form of control may be justified where there is no applicable warrant or guideline. Indeed, objective investigations will, in practice, frequently indicate that the most effective treatment should be constructional works, such as improvement to visibility or widening of pavement.

In all cases, engineering judgement must be used in assessing the need for treatment at any location. Warrants and guidelines set out in the *Manual* should be regarded as the means of exercising this judgment and selecting the proper treatment, rather than as a substitute for it.

However, it is emphasised that warrants and guidelines have been established after long experience and careful study and should not be departed from unless the necessity to do so can be fully substantiated.

Warrants and guidelines for particular traffic control devices are included in the relevant Part of this *Manual*.

