



DESIGN GUIDELINES

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PINE RIVERS SHIRE COUNCIL

DESIGN GUIDELINES



DG 04

**LOCAL AREA TRAFFIC
MANAGEMENT**



DG 04 LOCAL AREA TRAFFIC MANAGEMENT

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LOCAL AREA TRAFFIC MANAGEMENT (LATM) TREATMENTS AND SIGNAGE REQUIREMENTS

This Guideline is written in support of the Sections of the Design Standards for Roadworks which refer to speed control devices. Speed control devices shall mean LATM treatments as referred to in Queensland Department of Transport Manual of Uniform Traffic Control Devices (MUTCD).

PART A - LATM TREATMENTS



1.0.0

GENERAL

1.0.1

This Guideline is for use in the design of Local Area Traffic Management (LATM) treatments for new residential subdivisions. The guideline is intended to apply to treatments such as:-

- ❖ mid-block driveway link
- ❖ modified T-intersection
- ❖ central median or central island blister
- ❖ other related treatments which achieve a reduction in vehicle speed principally by shifting vehicle paths laterally
- ❖ vertical displacement devices;

Examples of a number of the above can be found in the Manual of uniform Traffic Control Devices (MUTCD)

Roundabouts shall be designed to conform to the requirements of Design Guideline DG 01.

1.0.2

The need for the inclusion of a LATM treatment in a development must be established at the development application stage. The strong preference of Pine Rivers Shire Council, in relation to achieving design manual requirements relating to vehicle speeds, is that subdivision layouts incorporate the use of a curvilinear roadway alignment in lieu of the use of LATM treatments.

LATM treatments shall only be used in a subdivisional development with the approval of the Pine Rivers Shire Council.

LATM treatments may be used in existing areas where approved by the Pine Rivers Shire Council in order to control vehicle speeds and discourage non residential traffic.

1.0.3

The design of an individual LATM treatment shall take into account and reflect the principles included in the Queensland Department of Transport Manual of Uniform Traffic Control Devices (MUTCD).

2.0.0 DESIGN

2.0.1 The parameters shown in Table 2.0 should be used for the geometric design of LATM treatments:-

Table 2.0

Design Variable	Street Type	
	Access	Collector
Minimum approach lane width (m)	3.1	3.5
Approach Speed (km/h)	40	40
Maximum speed through treatment (km/h)	20	25
Stopping sight distance (m) (Observer height 1.15m, Object height 0.0m)	45	45

Note: - Minimum lane widths may need to be increased in some cases to suit vehicle width plus working clearances.

The use of LATM treatment on streets of higher than Collector classification is not recommended.

2.0.2 The design of a treatment shall accommodate vehicles as shown in Table 2.1:-

Table 2.1

Treatment Type	Street Type	Design Car*	Refuse Vehicle**	Heavy Rigid Vehicle** or Coach**
Driveway link	Access	T	T or M	T or M +
Central median	Access	T	T or M	T or M +
	Collector	T	T	T or M Refer Note 1
	Bus Collector	T	T	T
Modified T-intersection	Access - Access	T	T or M	T or M +
	Access - Collector	T	T	T or M Refer Note 1
	Access – Bus Collector	T	T	T
	Collector - Collector	T	T	T or M Refer Note 1
	Collector – Bus Collector	T	T	T
	Collector to Trunk Collector	T	T	T or M Refer Note 1
	Bus Collector to Trunk Collector	T	T	T

* refer Austroads, Guide to Traffic Engineering Practice, Part 5

** refer Design Figures for this vehicle in the Design Standards for Roadworks

+ coach not applicable on these streets

M indicates manoeuvring template to be used

T indicates turning template to be used

Working clearances to the vehicle envelope are to be provided in accordance with the appropriate vehicle template. This is measured between the maximum vehicle swept path and any kerb or obstruction. Refer also to Clause 7 of this Guideline

Note 1: - Roads of Collector standard and above may be used for bus routes. The Pine Rivers Shire Council and local bus companies should be consulted by the designer prior to detailed design of the treatment. Where required by a Pine Rivers Shire Council engineer, appropriate bus turning templates are to be used to design the control treatment.

2.0.3 The following specification may be observed in the design of each traffic island included in a treatment:-

i)	nominal width of island (m)	1.8	
ii)	length of island (m)		
	central median	6.0 min	10.0 max
	modified tee intersection	6.0 min	10.0 max
iii)	minimum radius of kerb line (m)		
	at approach ends	0.60	
	at other end	0.60	
iv)	kerb type	cast in situ semi-mountable	
v)	minimum verge width adjacent to island	3.50 metres	
vi)	pavement cross fall	2.5% min 3% max away from island	
vii)	maximum longitudinal grade	10%	

3.0.0 LANDSCAPING

Each traffic island shall be landscaped with plans prepared in accordance with the Pine Rivers Shire Council's requirements for landscaping unless otherwise approved by a Pine Rivers Shire Council engineer. The maximum planting height in visibility areas shall be 400mm above pavement level unless otherwise approved by a Pine Rivers Shire Council engineer.

4.0.0 LINEMARKING AND SIGNAGE

Line marking and signage shall be provided in accordance with Part B of this Guideline.

5.0.0 LIGHTING

It is essential that adequate lighting is provided at all treatments. Lighting requirements are to comply with AS1158 Code of Practice for Public Lighting.

Due consideration should be given to the placement of poles such that they are clear of the potential swept paths of larger "non design" vehicles.

6.0.0 PEDESTRIANS AND CYCLISTS

The design shall make provision for pedestrians and cyclists in accordance with the overall requirements of the development. The location of a kerb ramp opposite a LATM treatment island shall generally be avoided.

Where it is necessary for pedestrians to cross an island:-

- ❖ a block out shall be provided, minimum width 1.20m
- ❖ the minimum width of the island at the crossing shall be 1.50m

7.0.0 RAISED PAVEMENT AREAS

7.0.1 Limited use may be made of raised pavement areas to control vehicle movements at a treatment. These raised areas will comprise a series of individual pavement strips using asphaltic concrete or approved attachment treatments. Asphaltic concrete pavement strips shall be 50mm min/75mm maximum height and 300mm wide, domed and angled away from the direction of traffic. The area of raised pavement shall be painted in accordance with the requirements of this guideline and the MUTCD.

7.0.2 Raised pavement areas may be included inside kerb areas to control the speeds of smaller vehicles (e.g. cars) whilst being mountable by larger vehicles. Use of this is restricted to ACCESS PLACES and ACCESS STREETS.

8.0.0 PAVING MATERIALS

8.0.1 The use of a paving material other than asphalt concrete at a treatment to differentiate road function (i.e. minor residential streets) is encouraged.

Approved alternative paving materials include:-

- (i) shallow pattern-stamped concrete
 - (ii) exposed aggregate concrete
 - (iii) other materials, as approved by the Director, Assets and Infrastructure Services Division
- ❖ Where concrete is stamped or indented, the indentation shall be shallow so as to minimise vehicle traffic noise - indentation shall generally not be greater than 5mm in depth and 12mm in width.
 - ❖ Where an exposed aggregate finish is proposed, the concrete shall be made using an approved crushed aggregate.
 - ❖ Where colour-modified concrete is used for road pavements and LATM treatments, the full depth of concrete pavement shall be colour batched. Only dark colours shall be used, i.e. colours which are least likely to show rubber, oil, grime, etc.

Surface colour treatments for concrete shall not be used in road carriageways or footpaths.

- ❖ The minimum strength of concrete used for road pavements shall be Grade N32.

8.0.2 Paving materials in vehicular areas which are NOT acceptable to the Pine Rivers Shire Council include clay and concrete pavers

9.0.0 LOCATION OF DEVICES

9.0.1 LATM treatments shall not be located such that:-

- ❖ they unduly obstruct access to existing properties
- ❖ they unduly limit potential access to allotments within the proposed developments
- ❖ there is insufficient sight distance for a driver to appropriately recognise and react to the treatment
- ❖ safe intersection sight distance cannot be provided
- ❖ they severely impact on stormwater flows:- minor and major flow designs (stormwater design may require modification as a result)

9.0.2 Allotment access shall be taken into account in the positioning of traffic islands incorporated in a treatment. Central medians shall generally be located in line with allotment side boundaries to maximise the width of access available to each allotment. If necessary, allotment boundaries shall be repositioned to satisfy this requirement.

10.0.0 DRAWINGS

A separate intersection or detail drawing shall be provided for each LATM treatment. The drawing shall show dimensions, construction details, contours, signage, line marking, lighting, landscaping and swept path of the design vehicles and other details in accordance with the design manual.

PART B - LATM TRAFFIC SIGNS AND LINE MARKING

11.0.0 GENERAL

This Guideline will address the location and frequency of placement of traffic signs on Local Area Traffic Management Treatments (LATM treatments) in Local Traffic Areas (LTAs).

This Guideline covers those streets in the "Residential or Urban Collector Street" category and below, i.e. those streets with a design speed of 40 km/h or less. Streets with this design speed constitute the majority of the new residential streets.

12.0.0 GOVERNMENT LEGISLATION

12.1.0 GOVERNMENT LEGISLATION

The Transport Operation Act (1995) and amendments, along with the Transport Operations Regulations (1999) is the governing legislation covering the movement of traffic in roads. In it are definitions, direct support to Manual of Uniform Traffic Control Devices for the use and location of signs, the authority for Local Government to make Local Laws, directions as to where signs may be placed and clauses covering traffic movement and sign placement.

The rights of Local Government are described for permanent and temporary use of signs.

This information forms the background for the usage of signs in intersections and Local Traffic Areas (LTAs).

12.2.0 WARRANT FOR SIGNS

The MUTCD is produced by Queensland Transport and describes the warrant for and the positioning of official traffic signs and line marking. These signs are grouped into several categories, of which the following groups generally apply for use in Local Traffic Areas (LTAs):-

- ❖ Regulatory signs (R)
- ❖ Warning signs (W)
- ❖ Hazard markers (D)

13.0.0 SIGNS AT LATM TREATMENTS

13.1.0 SIGNS AT LATM TREATMENTS

LATM treatments may be installed in isolation or as part of an area wide scheme.

13.1.1 If a LATM treatment is placed in isolation then it must be sign posted and placed in accordance with the MUTCD.

13.1.2 If LATM treatments are placed as part of a designated LTA, then several signs may be deleted from the treatment. Refer to the MUTCD for layout information.

13.2.0 AREA WIDE MANAGEMENT WITHOUT THRESHOLD TREATMENT

Where LATM treatments are used in an existing area without a threshold treatment and an extension of the area is proposed then:-

- (i) a threshold treatment may be retrospectively installed at the entrance to the area; or
- (ii) all LATM treatments shall be signed in accordance with the MUTCD.

13.3.0 AREA WIDE MANAGEMENT WITH THRESHOLD TREATMENT

At the interface between the standard urban street and a LTA, a perimeter or threshold treatment shall be placed. This treatment is used to inform drivers that they are entering a lower speed environment and can expect to encounter other similar measures in the area. Accordingly, they should modify their driving behaviour to suit the local nature of the residential streets.

In all cases, the overriding consideration is driver safety and visibility must be assured or the appropriate warning signs installed.

13.4.0 PERIMETER TREATMENTS

Two types of perimeter treatment are provided for:-

- (i) The speed limit area signs "40 Area (R 4-10)" and "End Speed Limit Area (R 4-11)", without other treatment should be used where vehicle speeds are controlled by geometric design only.
- (ii) Where supplementary structures must be used to limit vehicle speeds such as mid-block islands, etc. then the full treatment for a Perimeter threshold as shown in the MUTCD should be used. A speed control device shall be incorporated in this treatment.

13.5.0 SIGNAGE OF MANAGED AREAS WITH THRESHOLD TREATMENTS

Within a LTA, the majority of traffic signs may not be required if adequate sight distance is available.

To enhance the visibility of treatments the nose and perimeter kerb shall be painted with white reflecting paint

To permit the maximum driver visibility at treatments, signs within the limits of the carriageway should be placed so that the top of the sign is 1.0m above the adjacent pavement.

It is essential that adequate lighting is provided at all treatments. Lighting requirements shall comply with AS 1158 Code of Practice for Public Lighting.

14.0.0 LINE MARKING

Line marking for use with LATM treatments shall be provided in accordance with MUTCD.

Particular attention should be given to highlighting the approach end of islands by painting the kerb.