

Technical Note TN69

Banners on Light Poles

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1 Purpose

1.1 General

This technical note describes the technical requirements for affixing vertical banners to Rate 3 Light Poles owned by Queensland Department of Transport and Main Roads.

1.2 Out of scope

This technical note does not provide guidance for:

- banners attached to any other structures owned by the department
- banners attached to light poles owned by others, and
- other items such as community event decorations attached to any Transport and Main Road's structure.

2 Definitions

Terms and abbreviations used in this technical note are described in Table 2.

Table 2 – Definitions

Term / abbreviation	Definition
Banner	A banner shall refer to the banner itself as well as the banner supports and method of attachment as a whole entity
Banner support	A system comprising support arms, brackets, links, and chains, as shown in SD1518, that supports and affixes the banner to the pole
May	A permissive condition, indicates that the guidance is conditional or optional
MRTS	Transport and Main Roads Technical Specification
Shall	The word shall is to be understood as mandatory
SD	Transport and Main Roads Standard Drawing

3 Referenced documents

Table 3 lists documents referenced in this technical note.

Table 3 – Referenced documents

Reference	Title	Design element
MRTS14	<i>Road Furniture</i>	Installation, maintenance and removal of road furniture
MRTS78	<i>Fabrication of Structural Steelwork</i>	Requirements for the design and manufacture of banner support elements
MRTS97	<i>Mounting Structures for Roadside Equipment</i>	Requirements for the design and manufacture of Transport and Main Road's Rate 3 Light Poles
SD1518	<i>Banners on Light Poles - Support Details and Installation of Single and Double Banners</i>	Fabrication details of the banner supports and the installation of the banners
TN185	<i>Project Recognition Signs</i>	Requirements for signage on Transport and Main Road's projects

4 Criteria for selection of permitted poles and banners

The following criteria provides the requirements for a third party to affix a banner or banners to a Transport and Main Road's road lighting pole.

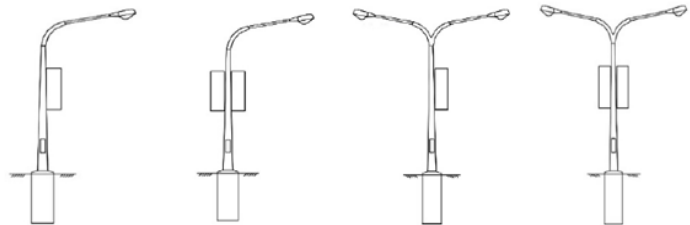
4.1 Permitted poles

Permitted poles that may be used for banners shall be:

- owned by the department
- Rate 3 base plate mounted octagonal and circular road lighting poles designed to MRTS97, and
- of 8.5,10 and 13 m in pole height.

Table 4.1 shows the permitted pole and banner combinations.

Table 4.1 – The combinations of permitted poles and banners



Pole Type	Pole Size m	Banner Size m	Single Outreach		Double Outreach	
			1 - Banner	2 - Banners	1 - Banner	2 - Banners
Octagonal Pole	8.5	2.0 x 0.9	YES	No	No	No
	8.5	3.0 x 0.9	No	No	No	No
	10	2.0 x 0.9	YES	YES	YES	YES
	10	3.0 x 0.9	YES	No	YES	No
	13	2.0 x 0.9	YES	YES	No	No
	13	3.0 x 0.9	YES	No	No	No
Circular Pole	8.5	2.0 x 0.9	YES	No	No	No
	8.5	3.0 x 0.9	No	No	No	No
	10	2.0 x 0.9	YES	No	No	No
	10	3.0 x 0.9	No	No	No	No
	13	2.0 x 0.9	YES	YES	No	No
	13	3.0 x 0.9	YES	No	No	No

4.2 Inspection of permitted poles

The condition state of the permitted pole shall be evaluated as per the maintenance schedule by the district prior to the installation of any banners. Any deficiencies found in any element of the pole shall be rectified prior to banner attachment.

4.3 Permitted banners

Permitted banners shall meet the requirements set out in this technical note and be installed in accordance with SD1518.

Transport and Main Road's project recognition signage shall be in accordance with TN185.

The permitted banners are:

- 2.0 m high x 0.9 m wide, as a single or double banner configuration, and
- 3.0 m high x 0.9 m wide, as a single banner only.

Table 4.1 shows the permitted pole and banner combinations.

4.4 Excluded poles

The following poles are excluded:

- Slip base mounted poles
- Rate 1 and 2 light poles
- High mast poles exceeding 13 m, unless checked and certified by a Registered Professional Engineer of Queensland (RPEQ)
- Base plate mounted poles with aerial connection, and
- Hinged poles.

4.5 Locations where banners are not permitted

Banners shall not be affixed to any Transport and Main Road's road lighting poles that are:

- on roads with a speed limit greater than 80 km/h
- located at signalised intersections or roundabouts, or
- within 30 m of signalised intersections, roundabouts, or pedestrian crossings.

4.6 Locations where banner installation requires special consideration

Risk analysis may be required for poles in the following locations (but are not limited to):

- coastal roads and bridges over large expanse of water
- flat open and exposed terrain, and
- roads adjacent to escarpment.

5 Safety of road users and operational limitations

Each banner installation shall meet the following requirements to ensure road safety:

- a) The amount of information on a single banner attached to a light pole shall be limited in order to reduce the attention demand on drivers.
- b) Banners on light poles shall be erected so that the desirable minimum from the underside of the lower support is 4.5 m (absolute minimum 2.4 m above a footpath), 4.5 m over a parking lane and 5.4 m over or within 600 mm of a traffic lane.
- c) The maximum height of the lower support above the ground shall be 5.5 m, so as to not exceed the structural capacity of the pole. On over-dimensional routes or when vehicle heights exceed 5.1 m, the lateral offset of the pole shall be increased so that the banner is not within 600 mm of the traffic lane or, alternatively, the banner shall be erected on the far face of the pole (away from the traffic).

- d) For working clearance purposes, no part of any banner installation shall be closer than 0.5 m to any part of the horizontal section of any light pole luminaire outreach arm.
- e) Maximum projection of any part of the banner installation from the pole shall be 1.4 m.

6 Banner operation

The support arm, pole mounting bracket and chains, shall be fabricated and installed in accordance with the requirements of SD1518.

Banner supports absorbing oscillating loads are a fatigue issue and shall be replaced every seven years.

6.1 Banner operational requirements

The banner:

- a) Shall be maintained in good order throughout the term of the Road Corridor Permit.
- b) Shall be able to contain its stiffening rods or similar which must be completely concealed within banner pockets under all wind conditions.
- c) Stiffening rods shall be of light duty rigid PVC conduit with no sharp edges.
- d) Attachment apertures shall incorporate appropriately secured reinforced eyelets at both bottom corners of each banner.
- e) Shall be adequately stitched or welded to ensure it will not come adrift from fittings.
- f) Shall be designed to release from the lower banner support arm only and must remain attached and in place on the upper support arm.
- g) Total static weight and attachments on light poles shall not exceed 15 kg.

6.2 Banner support operational requirements

The banner:

- a) Shall be held taut with minimal flapping or movement, without yielding or fatigue of the support arm, pole mounting bracket, links, or chain for an extended period.
- b) Shall be in the same plane as the outreach for the luminaire.
- c) Supports shall be readily attached to and disconnected from the poles without drilling or welding.
- d) Method of attachment to the pole is via two tensioned chains, in accordance with SD1518.

7 Banner material

7.1 General

The banner:

- a) Shall be weatherproof, UV resistant, and exhibit good tear resistance, such that propagation of any tears is minimal and are less than 100 mm from the source.
- b) Should be selected with consideration to circular economy and waste management hierarchy. Where feasible, source banner material made from recycled materials that can be recycled when decommissioned.

- c) When designing a banner, each message should be limited to a single banner; where there are linked messages, these may be split and displayed on successive light poles.
- d) Where the banners contain linked messages, they shall be the same size and installed at the same relative height above the road.
- e) Shall be single sided unless located in the median where the criteria for banners on light poles in each direction shall be met.

7.2 Material requirements

The banners shall be made from durable, fibre reinforced vinyl. The vinyl shall be within the density range of 540 grams/m² to 650 grams/m², weatherproof, UV-resistant, and exhibit good tear resistance, such that propagation of any tears are less than 100 mm from the source.

Other materials with properties matching or exceeding the above properties of vinyl may be considered, subject to approval.

8 Banner testing

Testing of banners is not required if the banner fully complies to this technical note, the Road Corridor Permit and the Region's Standard Conditions for vertical banners on light poles.

If the banner does not comply, it shall be tested in accordance with Appendix A of this technical note in the presence of a RPEQ who provides the RPEQ certification.

9 Approvals and indemnification

9.1 Approvals

The third party proposing to affix a banner or banners to Transport and Main Road's-owned light poles shall seek approval from the relevant local Transport and Main Road's district and meet any conditions set out by that district. A Road Corridor Permit issued by the relevant district is required prior to installation of the banner.

9.2 Indemnification and Public liability insurance

Indemnification and public liability insurance shall be as per the Road Corridor Permit.

10 Banner inspection requirements

The installed banner shall be inspected:

- Immediately after installation and at regular intervals, not exceeding six months to confirm the condition of the fabric of the banner, pole condition status with regard to loss of galvanisation, release mechanisms and support bracket and to check for any visible indications of fatigue.
- Immediately after severe wind gust events or on activation of the release links, especially in cyclonic areas.

Faded, worn, torn or damaged banners shall be removed and replaced.

Installed banners not complying with the above inspection requirements or failing to comply with conditions set out by the district shall be removed from the light pole.

Appendix A: Testing of banner

The banner, when laid horizontally and supported at each corner, shall be capable of supporting a point load of 80 kg weight at its centre, without tearing, for at least 15 minutes duration.

The test procedure shall consist of placing weights on a banner, which has been arranged to hang horizontally, as detailed in the following steps:

1. The two banner support arms must be attached to a horizontal structure (such as a section of pole) and prevented from rotating.
2. The banner material must be installed tautly between these two banner support arms, with no more than 25 mm of sag at the banner's centre (under its own weight).
3. A distributed load of 40 kg must then be applied to the banner. This shall be in the form of a single 40 kg weight, placed centrally on the banner. With this load applied, the banner load release links must NOT fail or release.
4. A distributed load of 80 kg must be applied to the banner. This shall be in the form of two 40 kg weights. These must be set symmetrically lengthwise along the longitudinal centre line of the banner, either side of the lateral centre line. With this load applied, the banner load release links must either break or deform to such an extent that it is clear that with some subsequent flapping, the banner would be freed from the release link components. No part of the banner load release link must fall separately to the ground.
5. For systems utilising links of different strengths, such as an outer banner load release link designed to and which has released first, reapply the 80 kg load to the banner, placing the weight centrally on the remaining 'triangle' of banner. This must cause the outer banner load release link to break or release.
6. After completion of Step 5 above, replace the banner load release links and repeat the above testing sequence up to the end of step 5 at least twice (conduct the test at least three times using different links) to ensure consistency of results with different banner load release links of the same design and manufactured batch.

