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# Harmonisation of Longitudinal Pavement Marking

Road Authority Pavement Marking Group

August 2018





## Road Authority Pavement Marking Group (RAPMG)

- Used to be an informal meeting of road authorities to discuss pavement markings.
- Austroads formalised the RAPMG (includes road authorities from Australia and New Zealand)
- Part of Austroads Assets Taskforce Group
- Main aim is to harmonise pavement markings and specifications and trials
- Unable to achieve the aims for many years despite the will to do so



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# Roads Australia

- Around April 2015 Roads Australia prepared a Report on Technical Specifications and Procurement.
- Report contained 6 Recommendations :-
  - **Road safety barrier installation - accreditation and training**
  - **Road line marking technical specifications \***
  - **Traffic control at road work sites \***
  - **Procurement**
  - **Asphalt and pavement technical specifications**
  - **To set a pipeline of next priority technical specifications to consider for harmonisation/standardisation**



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## Roads Australia

***Recommendation 4 – That road line marking be standardised across Australia.***

Issue: Road line marking is an area that could be harmonised and would assist all state/territory governments and the private sector. Currently all states/territories have different requirements for road line marking.

**ACTION:**

RA to convene a meeting with road agency representatives, Austroads and the Roadmarking Industry Association of Australia to define the practical steps towards the harmonisation of road line marking specifications.



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# Road Authority Pavement Marking Group (RAPMG)

- RAPMG initiated contact with Roads Australia in 2016
- Submitted a project proposal to Austroads to harmonise longitudinal pavement and prepare a draft National Specification
- Austroads approved project AAM2111 for the harmonisation of pavement marking and national pavement marking specification.
- The group consisted of all Australian road authorities and NZTA.
- The group liaised and sought comment from RIAA and industry representatives and Roads Australia



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## Road Authority Pavement Marking Group (RAPMG)

- RAPMG discussed widths of individual lines in AS1742.2 and over time agreement reached.
- National Specification for longitudinal line marking prepared with key clauses to be adopted by road authorities
- Agreement reached on width of STOP and GIVE WAY lines





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# Road Authority Pavement Marking Group (RAPMG)

- Agreement reached on ATLM
- Agreement reached on pavement arrows
- Agreement reached on pavement numerals and letters
- Agreement reached on the use of barrier lines on short sharp curves or crests instead of special purpose lines
- Agreement reached on the use of barrier lines to separate multi lane roads instead of broken lines (6.0 m stripe and 6.0 m gap)



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## Road Authority Pavement Marking Group (RAPMG)

- RIAA and RAPMG met in early May 2018 to discuss the report.
- After the meeting with the RIAA the RAPMG met to finalise the report and specification.
- Report and Specification sent to Austroads for approval to publish.
- Next step review AS 1742.2 Section 5 Pavement Marking.





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## Standards Australia MS-012 Committee

- Standards Australia has given approval to review AS 1742.2.
- AS 1742.2 will be amended to reflect the new line widths, pavement arrows, fonts, audio tactile line marking (edge and centre) and wide centreline treatments.
- RAPMG has written to Standards Australia to include B-HR class beads and update the Standard for thermoplastic to give better on road performance.
- CSIRO / APAS is also reviewing the specification for thermoplastic. May see 3 different specs for thermoplastic - tropical, cold climate and profile.



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# Line Widths

DIVIDING LINES		WIDTH mm Minimum
DL 1	(a) Two-lane, two-way road	100
DL 2	(b) Multi-lane undivided road (Used to discourage overtaking)	150 Consider Using Single Barrier Line **
DL 3	(c) Special purpose e.g. short, sharp curves or crests (Used to discourage overtaking or enhance delimitation where provision of single barrier line is unsuitable)	100 Consider Using Single Barrier Line **
BARRIER LINES		
BL 1	(a) Double - one-way	100 100 100
BL 2	(b) Double - two-way	100 100 100
BL 3	(c) Single	100 - May be increased to 150 or 200 on Multi-Lane Roads
LANE LINES		
LL 1	(a) Standard-broken	100
LL 2	(b) Special purpose-broken (Used to discourage lane changing, including circling and exit lines at multi-lane roundabouts)	100 - may be increased up to 150 on Expressway type roads
LL 3	(c) Standard-continuous	100
EL	EDGE LINE	150*
CL	CONTINUITY LINE	150*
TL	TURN LINE	100
OL	OUTLINE MARKING	150*
PL	PEDESTRIAN GUIDE LINE	150

NB: See clause 5.2.6 for colours.

\* May be increased up to 200mm on expressway type roads.  
\*\* Should be used where overtaking or lane changing is discouraged



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## Tram Lines

### TRAM AND TRAMWAY LINES (Traffic Lane with Adjacent Tram Track)

#### DIVIDING LINES

			WIDTH mm	
TR 1	(a) Broken Type Traffic lane with tramtracks (ie. no lane use restrictions)		100	Yellow
TR 2	(b) Full-Time or Part-Time Tram Line		100	Yellow Can be 150 for Full Time
TR 3	(c) Tramway		100 100 100	Yellow
TR 4	(d) Continuity Line for Part-Time Tram Line		150	Yellow

These lines are covered in AS1742.12 Bus, Transit and Truck Lanes

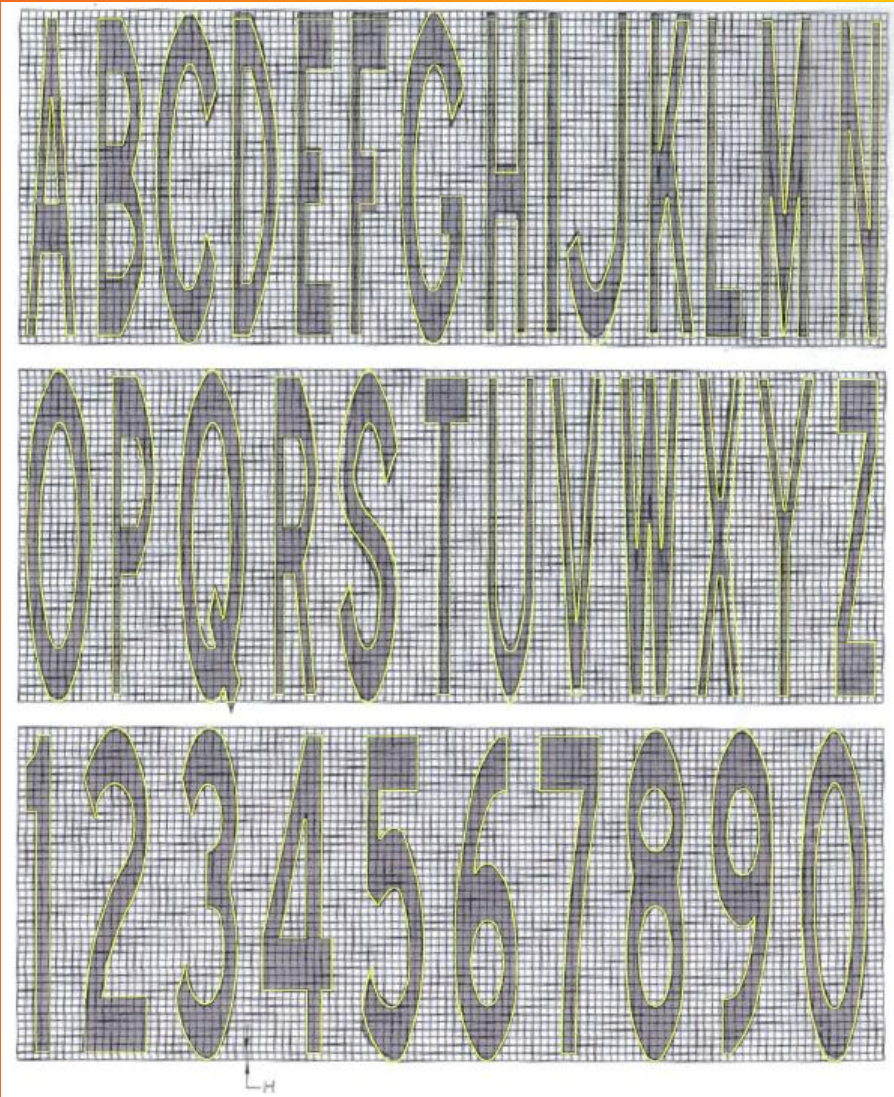
#### TRANSVERSE LINES

			WIDTH mm	
GW	(a) Give Way Line		300 450 600	Standard Width At Rail Crossings and Slip Lanes at Traffic Signals Where Approach Speeds are 80km/h and Above
SL	(b) Stop Line		300 450 600	Standard Width At Traffic Signals, Rail Crossings and Children's Crossings Where Approach Speeds are 80km/h and Above



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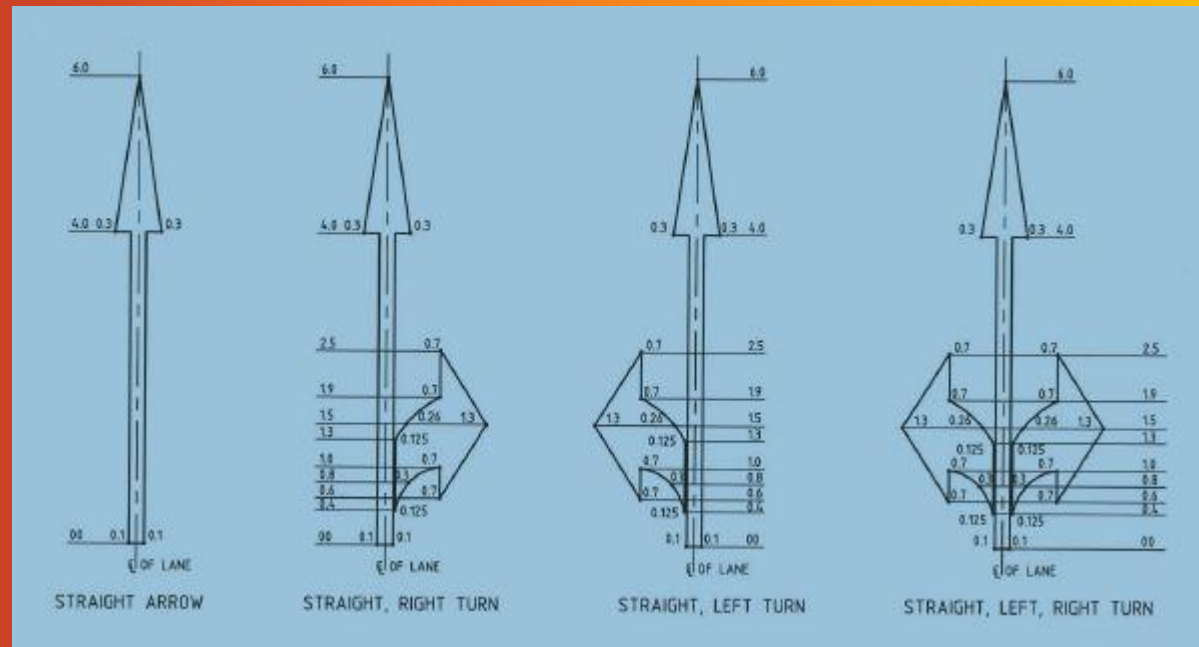
## **Numerals and text (fonts)**





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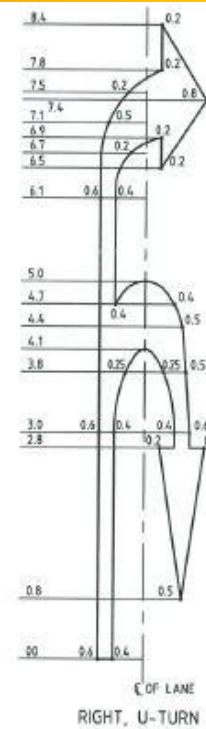
# Pavement Arrows







# Pavement Arrows







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# Audio Tactile Line Marking (ATLM)

- Edge line
- Centre line
- Wide centre line treatments (generally 1.0 m wide)
- Maintenance of ATLM still an issue



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# National Specification

- APAS approved products
- PCCP
- B-HR, C-HR and D-HR surface applied beads  
(Standards Australia requested to include B-HR)
- Thermoplastic with improved on road performance  
(tropical, cold weather and profile specification)



# National Specification

- Cold Applied Plastic (CAP)
- Skid – 45 BPN or higher (or equivalent)
- Assessment for Retroreflectivity of Longitudinal and Transverse Pavement markings



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# National Specification – Work in Progress

- Transverse markings
- Coloured surfacing



## What Next

- Harmonise as much as possible pavement marking treatments such as painted medians
- APAS specifications for glass beads
- APAS specifications for temporary tapes, permanent tapes, temporary flaps etc.



Questions?







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# AS1744

- Reviewed and published 2015.
- SWTC includes reference to AS1744 therefore all new contracts require the new fonts for guide / direction / reassurance signs
- The new font is the FWHS Series 2000 font



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# AS1743

- Reviewed and published March 2018.
- The new font is the FWHS Series 2000 font
- Have emailed all sign manufacturers that from Jan 1 2019 all small signs must be manufactured using AS1743 - 2018



# Innovation Signs and Pavement Marking

- Vehicle activated signs
- Cold Applied Plastic (CAP) – Armadale Road (will be performance based / outcomes)
- Audio tactile centre line
- 600 mm and 1.0 m wide centre line treatments
- KEEP ME INFORMED