Austroads Research Report August 2018

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IMPLICATIONS OF TRAFFIC SIGN RECOGNITION (TSR) SYSTEMS FOR ROAD OPERATORS

The major recommendations provided in Austroads Report are summarised below:

• Further research: Further analysis is required to understand the root cause of electronic sign readability issues. This should be conducted to inform further standards development. Further investigation of shielding, or placement of signs on side roads or off-ramps, to ensure signs are not visible to freeway main carriageways is also needed.

• OEMs: System enhancements to TSR technology are required to ensure this is more spatially aware and can avoid scenarios where signs located on nearby roads are incorrectly interpreted. OEMs should be more collaborative with traffic sign working groups and jurisdictions and provide more advice on problematic areas prior to system deployment, particularly where TSR technology is expanded into recognition of signs such as control and direction signs.

• Australian and New Zealand standards [electronic signs]: In the shorter term, electronic sign Traffic Sign Recognition system readability criteria and guidelines should be developed. This would be used by jurisdictions for new sign installations and also to support, through routine maintenance programs, the gradual replacement of existing signs. This work could be considered either as a part of the National ITS Type Approval Criteria (NITAC,) currently under development, or a new Austroads project/process. Both vehicle and sign manufacturing industries should be consulted in the development of the criteria and guidelines, to ensure feasibility and future proofing. In the longer term, a new requirement should be added to the relevant Australian and New Zealand standards/specifications to ensure that signs can be read by TSR systems.

• Australian standards [school signs]: Options for resolving this issue require further policy consideration of costs and public acceptance. Options could include: deploying more Variable Speed Limit Signs (VSLS) on high speed, high traffic roads; introducing permanent 40 km/h zones where free traffic speeds cannot achieve more than 40 km/h, such as on side roads; removing collocated static school speed signs and VSLS. The Austroads Traffic Management Working Group (TMWG) and Australian Standards committee MS-012 should also work to consolidate sign standards for school signs into a consistent format, use symbology and reduce variability between jurisdictions.

• Australian and New Zealand standards [qualified signs]: Speed signs qualified with the words END, AHEAD, and AREA, or SIDE ROAD (marked with an arrow) should be replaced with appropriate static speed limit signs or speed advisory/warning signs to avoid mis-reading by TSR systems.

• Austroads Traffic Managers Working Group (TMWG) Suggest TMWG take a governance role with the Australian Standards MS-012 Road Signs and Traffic Signals to support greater consistency, and support jurisdictions in the following recommended approaches for improving sign readability by TSR systems:

- Agree on a critical list of signs for readability by TSR systems.
- – Develop an electronic sign test method for readability by TSR systems.
- – Minimise the use of time, weather and traffic dependent changes in statutory speed limit signs and support the use of electronic VSLS.

• Education: Programs are required to educate traffic managers on the impacts, on TSR system performance, of inconsistent sign installation and placement at roadworks zones. Generally, a greater reinforcement is required of the legal status of some traffic signs. Signs should not be fitted to other vehicles, tramways, roadside objects, such as road-side garbage bins or buildings, where they are visible to passing traffic. It is noted that some recommendations may require funding increases and, therefore, will be slower to implement, while other recommendations are primarily related to changes in practice, these should be adopted to ensure TSR technology friendly sign use and installation. Financing of recommendations was not considered in detail, however, a number of low cost options were considered and an assumption made that financially demanding changes would be adopted in a gradual fashion that compliments existing maintenance and sign replacement regimes.