**Revised discussion document**

# Please send feedback to Kim Laurenson by 9 November 2018. [kim.laurenson@nzta.govt.nz](mailto:kim.laurenson@nzta.govt.nz)

**For Discussion**

**Proposed Process for Implementation of MASH Truck or Trailer Mounted Attenuators and Rear Underrun Protection Devices**

As a result of consultation with and constructive feedback from the TTM sector, the NZ Transport Agency’s proposal for the introduction of MASH Truck or Trailer Mounted Attenuators (TMAs) and Rear Underrun Protection Devices (RUPDs) has been revised and is reissued for further consultation.

**Background**

The world’s vehicle fleet has changed since the development of the NCHRP 350 crash testing protocol in the 1970’s. The larger vehicle size has meant that the 350 systems no longer fill the need and has led to the development of a new test protocol known as the Manual for Assessing Safety Hardware (MASH).

In 2009 (updated in 2016) the American Association of State Highway & Transportation Officials (AASHTO) published the MASH protocol which has be adopted by many countries including NZ, and most importantly the Austroads Board on the advice of Austroads Safety Barrier Assessment Panel (ASBAP) – refer attached letter. The reference in the letter to “Part 2 products” refers to AS/NZS 3845 Part 2:2017 which contains the performance requirements for TMAs and RUPDs to be submitted to ASBAP for consideration. The Austroads Board has a target date of 2020 for implementation of the change.

TMAs are usually mounted to work or road maintenance trucks or trailers towed by such trucks, that are used by workers carrying out road maintenance or road works some distance in front of the truck. They are often parked on a road to shield against errant vehicles that would otherwise collide with road workers if the truck or trailer was not in place. TMAs usually protrude a significant distance from the rear of the truck in order to provide sufficient distance for the impacting vehicle to be slowed and for the ride down decelerations for the occupants to be within MASH nominated limits. TMAs can usually be disconnected from the truck.

RUPDs are usually permanently mounted to the rear of trucks or trailers towed by such trucks. RUPD’s usually do not protrude from the rear of the truck and mostly rely on the impacting vehicle’s frontal crash protection system(s) for ride down decelerations for the occupants although some of the impact kinetic energy can be dissipated by the RUPD.

**Proposed Actions and Timelines for New Zealand**

It is our expectation that a supplier importing new road safety hardware would now bring in MASH products to ensure they are future-proofed.

TMAs and RUPDs deployed on the NZ network will need to be MASH compliant systems by no later than 31 December 2028, but may deployed earlier.

There are a number of considerations:

* Currently NZ has a fleet of NCHRP 350 Test Level 2 (TL2) TMA’s, these will need to be phased out
* There are no MASH TL2 TMAs available at present
* The support vehicles for MASH TL3 TMAs are generally heavier than those currently used for NCHRP 350 TL2 TMAs
* New Zealand now has 110km/h permanent speed limits in some locations

The proposal is to apply the following minimum requirements on level 2LS, level 2 and level 3 roads:

1. Phase out NCHRP 350 TL2 TMAs as they become unserviceable or by 31 December 2028 whichever occurs first
2. By 31 December 2020, MASH TL3 TMAs as detailed in Section 6, AS/NZ 3845 Part 2:2017 are to be deployed on level 2 and 3 roads with permanent posted speed limits of 70km/h or greater
3. NCHRP 350 TL2 TMAs may continue to be deployed on level 2 roads with permanent posted speed limits of 70km/h or less until 31 December 2028
4. Rear Underrun Protection Devices (RUPDs) as detailed in Section 7, AS/NZ 3845 Part 2:2017 may be used on vehicles deployed on level 2LS and level 2 roads with permanent posted speed limits of 60km/h or less
5. These changes apply to all new temporary traffic management (TTM) activities undertaken after the respective dates of enactment outlined above and to any current TTM contracts where the proposed changes can be accommodated subject to appropriate value assessment

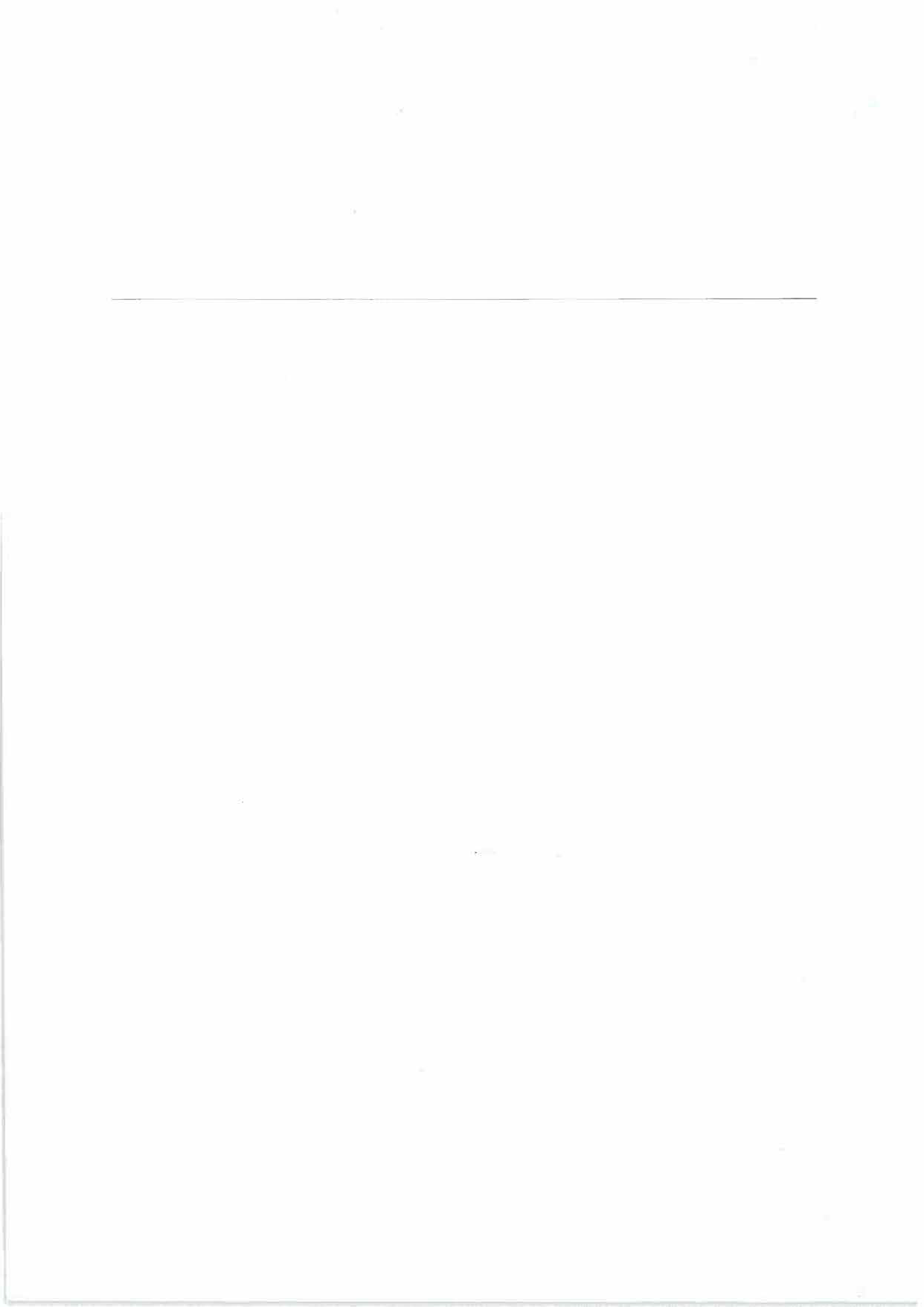
In summary, from 1 January 2029 the minimum requirements for level 2LS, level 2 and level 3 roads will be as follows:

|  |  |
| --- | --- |
| **Permanent Posted Speed Limit** | **Minimum requirement** |
| 60km/h or less | RUPD |
| 70km/h or greater | MASH TL3 TMA (either truck or trailer mounted) |

RCAs and Contractors may consider the benefits of using RUPDs on vehicles deployed on level 1 roads.

**Management of the Process**

The process for listing will be similar to other MASH products. The approved TMAs will be listed in NZTA M23 Appendix C.



**An Open Letter to Industry**

**Transition to *Manual for Assessing Safety Hardware* {MASH) guidelines**

The purpose of this letter is to advise industry of an important change to the eligibility criteria for product submissions to the Austroads Safety Barrier Assessment Panel (the Panel).

Since its introduction in 1999, Australian/New Zealand Standard AS/NZS 3845 (the Standard) has utilised the National Cooperative Highway Research Program Report 350 (NCHRP 350) guidelines as the basis for testing protocols to assess safety barrier related hardware and devices.

Previously submissions to the Panel were based on NCHRP 350 in line with the Standard.

In 2017, Part 1:2015 and Part 2:2017 of the Standard recognised the introduction of the American Association of State Highway and Transportation Officials (AASHTO) 2009 *Manual for Assessing Safety Hardware* (MASH) guidelines.

**In an effort to encourage installation of MASH crash tested devices, and in line with the changes to the Standard, the Panel has updated its product submission criteria.**

Effective immediately, all submissions received by the Panel must be in accordance with AASHTO's MASH guidelines or an equivalence rating to MASH in accordance with AS/NZS3845 Parts 1 and 2.

·The Panel will transition the current suite of accepted road safety barrier systems and devices within the Australasian market to MASH guidelines in line with the following timeframes:

* 31 December 2018
* 30 June 2019
* 31 December 2019
* 31 December 2020

Steel rail barriers and permanent concrete barriers Terminals

Wire rope safety barriers and crash cushions Transitions, temporary barriers, Part 2 products

unless already done so by product proponents and submitted to the Panel for assessment.

Product proponents are advised that the Panel will not retest currently accepted products in line with the MASH guidelines as part of the re-rating process.

The Panel also notes that the Austroads Board has a target date of 2020 for implementation of Safe System. This proposed transition period compliments this overall Board objective and timeframe.

**Stan Robb Chair**

**Austroads Safety Barrier Assessment Panel Dated 23 April 2018**

15 October 2012

To whom it may concern Dear Sir/Madam

**IMPLEMENTATION OF MASH-1 – SYSTEM PROMOTION**

**NATIONAL OFFICE**

Victoria Arcade 50 Victoria Street

Private Bag 6995

Wellington 6141 New Zealand

**T** 64 4 894 5400

**F** 64 4 894 6100

[**www.nzta.govt.nz**](http://www.nzta.govt.nz/)

In September we wrote to industry confirming our intention to adopt the AASHTO Manual for Assessing Safety Hardware (MASH-1) as the nominal standard for road safety hardware systems installed on the State highway network from 1 November 2012.

Therefore, from that date, we ask that MASH-1 testing results be used as the primary performance criteria in promoting any road safety hardware system that has been tested to MASH-1 and subsequently accepted by the NZ Transport Agency.

This will assist the NZ Transport Agency to embed this change, in line with our Safer Journeys strategy and Safe System philosophy.

Please address any queries in relation to this notification to the undersigned. Yours sincerely



**Fergus Tate**

**National Manager Traffic & Safety DDI +64 4 894 6496**

**M 0272810478**

**E** [**Fergus.Tate@nzta.govt.nz**](mailto:James.Hughes@nzta.govt.nz)