

Part 8 of the Traffic Control Devices Manual (TCD Manual)

Code of Practice for Temporary Traffic Management (CoPTTM)

(CoPTTM) - (SP/M/010)

Fourth Edition – Truck (or trailer) mounted attenuator (TMA) and rear underrun protection devices (RUPDs)

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Circulation	Regional Operations Managers, holders of the Code of Practice for Temporary Traffic Management and NZTA website. Please forward to your consultants and contractors.
Objective	To update the November 2018 version of the Fourth Edition of the CoPTTM.
Effective Date	This technical note amends the CoPTTM as of the date of issue and contains a range of application dates for changes to requirements for TMAs and RUPDs.
Status	This document is a guideline for use by the roading industry, road controlling authorities, network utility operators and event holders.
Implications	Includes changes to the requirements for TMAs on level 2 and level 3 roads and allows use of RUPDs where appropriate.
Reminder for all holders	It is important to keep holders of our documents up to date.
Additional copies	These may be downloaded from NZTA's website, free of charge or purchased direct from our distributor either via email: info@nzprint.co.nz , phone (04) 801 7892, or directly to NZ Print, PO Box 2491, Wellington, 6140.

Key to changes	New or amended text	Highlighted in yellow
	Deleted text	Red strike-through
	Comments about the change	<i>Italic text</i>

Amendments in section B11

B11.1 Introduction

A TMA generally consists of an energy absorption cartridge, a rigid back-up and a steel support structure that attaches the crash cushion to the truck.

Their purpose is to evenly and gradually dissipate the kinetic energy of an impacting vehicle.

TMA's also prevent an impacting vehicle from under-riding the truck body, which can result in shearing the top off the impacting vehicle at the bonnet line.



B11.1.1 National Cooperative Highway Research Programme (NCHRP) report 350

TMA's must be certified for compliance with NCHRP report 350 tests 50 and 51. The standard for roads with a speed limit in excess of 70km/h is test level 3. This has yet to be introduced as a requirement.

TL2 is the basic test level for TMA's and they must meet this performance requirement. With positive TTM, TL2 has been shown to be effective for crashes at speeds greater than 70km/h.

Note that the compliance rating for TMA's must be displayed on both sides of the unit and at the truck-mounting end of the unit, in black 100mm high lettering and reading as NCHRP 350: TL-2.

B11.1.2 Support vehicles

All support vehicles equipped with a TMA must:

- meet the minimum vehicle weight for the type of attenuator as detailed in the New Zealand register of compliant TMA systems, which is available on the NZTA's website
- meet all vehicle requirements recommended by the manufacturer of the TMA
- be legally permitted to travel on the road. Special approval may, however, need to be obtained from the NZTA for some TMA's, eg an over-width or over-length permit, and
- have fitted, as a minimum, a standard three-point seat belt for each person in the TMA cab.

B11.1.3 Application

TMA's are to be used on **all levels** of roads where required. Refer to sections C18 Temporary road safety barrier systems for static worksites and section D5 Mobile closures operational requirements for mobile operations.

All TMA's must at least comply with the requirements of NCHRP 350 TL-2 when used on roads with a permanent posted speed limit greater than 70km/h.

B11 Truck (or trailer) mounted attenuator (TMA) and Rear Underrun Protection Devices (RUPDs)

B11.1 Requirements for attenuator units and RUPDs

B11.1.1 Attenuator units and RUPDs

The **attenuator unit** is permanently mounted to the rear of a truck (or trailer towed by a truck). It generally consists of an energy absorption mechanism, a rigid back-up and a steel support structure. The purpose of the attenuator is to evenly and gradually dissipate the kinetic energy of an impacting vehicle. The absorption mechanism also acts to prevent an impacting vehicle under-riding the truck body.

The **RUPD** is permanently mounted to the rear of a truck frame. The RUPD normally does not protrude beyond the rear of the truck and mostly relies 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.

B11.1.2 Certification of TMA and RUPD

The following items must be certified for compliance:

Item	Certification required
TL3 Attenuator	MASH
TL2 Attenuator	NCHRP 350 or MASH
RUPD	AS/NZS 3845 Part 2
Truck mounted attenuator or RUPD	The mounting must be structurally certified by an appropriately qualified Heavy Vehicle Specialist Certifier
Trailer mounted attenuator	Trailer connection and any associated hardware on the truck must be structurally certified by an appropriately qualified Heavy Vehicle Specialist Certifier

The compliance rating for the truck (or trailer) mounted attenuator must be displayed on both sides of the attenuator in black 100mm-high lettering (eg MASH TL3).

The compliance rating plate for the RUPD must be attached to the left-hand (passenger) side arm of the RUPD and must be visible when viewed from the left rear side of the vehicle.

B11.1.3 Vehicle requirements

All vehicles equipped with a TMA must:

- meet the minimum vehicle weight for the type of attenuator as detailed in the [NZ Transport Agency Specification M23 Appendix C](#)
- meet all vehicle requirements recommended by the manufacturer of the TMA
- be legally permitted to travel on the road, and
- have fitted, as a minimum, a standard three-point seat belt for each person in the cab.

B11.1.4 Minimum requirements

The minimum requirements for shadow vehicles deployed on level 2 and level 3 roads is:

Permanent speed limit	Minimum requirement
70km/h or greater	TL3 TMA (MASH)
60km/h or lower	TL2 TMA (NCHRP 350 or MASH) or RUPD

B11.1.5 Application dates

The following application dates apply on level 2 and level 3 roads:

- a) By **31 December 2020**, MASH TL3 TMAs (as detailed in section 6, AS/NZ 3845 Part 2) are to be deployed on level 2 and 3 roads with permanent speed limits of 70km/h or greater
 - b) By **31 December 2028** NCHRP 350 TL2 TMAs to be phased out
 - c) NCHRP 350 TL2 TMAs may continue to be deployed on level 2 roads with permanent speed limits of 60km/h or less until **31 December 2028**
 - d) From **1 April 2019** RUPDs (as detailed in section 7, AS/NZ 3845 Part 2) may be used on vehicles deployed on level 2 roads with permanent speed limits of 60km/h or less.
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