



As part of the compliance and enforcement (C&E) reforms, new Austroads Measurement Adjustments for mass breaches are to be introduced nationally.

What are Measurement Adjustments?

A Measurement Adjustment is the amount of mass deducted from the Measured Mass (as shown on the measuring equipment) to give a vehicle an Assessed Mass.

i.e. $\text{Assessed Mass} = \text{Measured Mass} - \text{Measurement Adjustment}$

Enforcement action may be taken when a vehicle's Assessed Mass exceeds the legal limit.

Why introduce Measurement Adjustments?

The application of Measurement Adjustments provides legal certainty for the assessment of mass. Measurement Adjustments account for any potential inaccuracies in measuring equipment, differences in site characteristics, different measuring methods and the conditions under which the measurements are made.

Measurement Adjustments ensure all these factors are taken into account before determining whether an offence has actually occurred.



Categories of Measurement Adjustment

There are three categories of Measurement Adjustment designed to accommodate the types of weighing equipment and common environmental factors associated with mass measurement.

- **Category 1** – weighings at the best available sites, such as certified weighbridges or weighslab sites designed and constructed for accurate, reliable use with portable scales.
- **Category 2** – weighings conducted at weighbridges and well set out weighslab sites using portable scales, but do not meet the technical requirements of Category 1.
- **Category 3** – weighings conducted under less favourable conditions than Category 2 (including temporary roadside sites).

DTEI surveyed all weighsites used by the department around the State, in accordance with technical specifications detailed in the Austroads *Model Enforcement Guidelines for Heavy Vehicle Mass*. Each of the weighsites have been categorised as a Category 1, Category 2 or Category 3 site, in accordance with the survey data.

Measurement Adjustment Limits according to the Category of Weighing

The procedures for the application of the Measurement Adjustments, and the Measurement Adjustment limits themselves, (refer Table 1) are contained in the Austroads *Model Enforcement Guidelines for Heavy Vehicle Mass*.

The Austroads guidelines have been developed to ensure greater consistency in on-road enforcement between jurisdictions. These guidelines can be downloaded at www.austroads.com.au.

The application of the gross mass measurement adjustment is dependent upon the number of weighing steps (times the vehicle is moved) during the weighing operation (i.e. for each movement of the vehicle onto the scales to weigh the axles in relation to the limit in question). The assessment of gross mass, or any summed mass, can therefore involve the application of multiple Measurement Adjustments.

Table 1

Axle Group	Measurement Adjustment (MA) (tonnes)		
	Cat. 1 weighing	Cat. 2 weighing	Cat. 3 weighing
Single axle with single tyres	0.3	0.3	0.4
Twin steer or tandem axle, single tyres or combination of single and dual tyres	0.3	0.4	0.5
Single axle with dual tyres	0.4	0.4	0.5
Tandem axle with dual tyres	0.5	0.5	1.0
Triaxle or Quad-axle	0.5	0.5	1.0
Gross Mass	0.25	0.5	1.0
Axle spacing – measured mass of the sum of all axle groups within an axle spacing	0.25	0.5	1.0

How Measurement Adjustments Will Apply

Example 1

A typical semi-trailer on a Category 2 weighbridge with a single weighing plate may be weighed in the following steps:



Step 1 – weigh the steer axle



Step 2 – weigh the tandem axle group



Step 3 – weigh the tri-axle group

Allowable mass limit (tonnes)	Measured Mass (tonnes)	Assessed Mass (tonnes)	Number of weighing steps	Breach (Yes/No)
Steer Axle – 6.0	6.3	$6.3 - 0.3 = 6.0$	1	N
Tandem Axle with dual tyres – 16.5	17.2	$17.2 - 0.5 = 16.7$	1	Y – 200kg
Tri-axle – 20.0	21.5	$21.5 - 0.5 = 21$	1	Y – 1 tonne
Gross Combination Mass – 42.5	45.0	$45 - (0.5 \times 3) = 43.5$	3	Y – 1 tonne

In the above example three MA have been applied to the assessed gross combination mass as three weighing steps were necessary to measure this mass.

Example 2

A typical semi-trailer on a Category 1 weighslab using six portable scales is likely to be weighed in the following steps:



Step 1 – weigh the prime mover (drive and steer axles) using six scales



Step 2 – weigh the triaxle group using six scales

Allowable mass limit (tonnes)	Measured Mass (tonnes)	Assessed Mass (tonnes)	Number of weighing steps	Breach (Yes/No)
Steer Axle – 6.0	6.3	$6.3 - 0.3 = 6.0$	1	N
Tandem Axle with dual tyres – 16.5	18.2	$18.2 - 0.5 = 17.7$	1	Y – 1.2 tonne
Tri-axle – 20.0	21.1	$21.1 - 0.5 = 20.6$	1	Y – 600kg
Gross Combination Mass – 42.5	45.6	$45.6 - (0.25 \times 2) = 45.1$	2	Y – 2.6 tonne

In the above example two MA have been applied to the assessed gross combination mass as two weighing steps were necessary to measure this mass.

Further information

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