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# VIRM: Heavy vehicle specialist certification amendment preview pages

## Changes in effect from 1 February 2017

### January 2017

#### Land Transport Rule: Vehicle Dimensions and Mass 2016

In November 2016, the Vehicle Dimensions and Mass (VDAM) Rule 2016 was signed, coming into effect on 1 February 2017.

The rule sets vehicle size and weight limits, and vehicle configuration requirements, with a focus on heavy vehicles.

It is intended to strike a reasonable balance between the risks that heavy vehicles present to public safety, and the efficient operation of the heavy vehicle fleet within the constraints imposed by the road network.

As a result of the new rule, there are updates to a number of sections in the VIRM. Please read all the changes and familiarise yourself with them.

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## List of changes

| SECTION                   | CHANGE DESCRIPTION   |
|---------------------------|--|
| 3-1 Dimensions            | <ul style="list-style-type: none"><li>Changes to height and width requirements and their exceptions.</li></ul>                                     |
| 7-3 Static roll threshold | <ul style="list-style-type: none"><li>Updated SRT method approval.</li></ul>   |
| 7-4 Swept path            | <ul style="list-style-type: none"><li>This section has been completely rewritten.</li></ul>  |
| 7-5 Dynamic performance   | <ul style="list-style-type: none"><li>Changes to height and width requirements and their exceptions, and references to the Rule updated.</li></ul> |

## 3-1 Dimensions

| Reasons for rejection   | Tables and images   | Summary of legislation  |
|---|---|---|
| <b>Table 3-1-1</b>  |   |   |
| <b>Dimension</b>  |   | <b>Maximum distance (metres except where indicated otherwise)</b> |
| <b>Width:</b>   |   |   |
| All vehicles  | 2.55 or 1.275 from each side of the longitudinal centreline of the vehicle. |   |
| Towing vehicle and semi-trailer with:   |   |   |
| <ul style="list-style-type: none"> <li>a quad-axle set with two steering axles (and first registered before 1/2/17)</li> </ul>  | 18  |   |
| <ul style="list-style-type: none"> <li>any other quad-axle set.</li> </ul>  | 19  |   |
| <b>Height:</b>  |   |   |
| All vehicles  | 4.3   |   |
| <b>Front overhang:</b>  |   |   |
| Semi-trailer  | 2.04 radius arc ahead of kingpin centre                                     |   |
| Simple trailer  | 2.04 radius ahead of tow coupling centre                                    |   |
| Full trailer  | 2.04 radius arc ahead of turntable centre                                   |   |
| Pole trailer  | 2.04 radius arc ahead of turntable centre on the towing vehicle             |   |
| Agricultural motor vehicle  | 4.0   |   |
| All other vehicles  | 3.0   |   |
| <b>Note 3</b>   |   |   |
| The following items are not included in determining whether a vehicle complies with the width requirements in <b>Table 3-1-1</b> :  |   |   |
| <ul style="list-style-type: none"> <li>side-marker lamps and direction indicators</li> <li>collapsible mirrors that extend not more than 240 mm beyond the side of a vehicle or its trailer and 1.49m when measured from a vehicle's longitudinal centre line</li> <li>central tyre inflation system hoses that extend not more than 75mm beyond the outside of the tyre on the drive axles of a heavy motor vehicle</li> <li>a hubodometer that extends not more than 50mm beyond one side of a vehicle from a non-lifting, non-steering axle whose outer casings are of a light colour, provided the hubodometer is fitted on the axle that causes the least overwidth</li> <li>cab exterior grab rails that extend not more than 1.325m when measured from a vehicle's longitudinal centre-line</li> <li>the bulge towards the bottom of a tyre</li> <li>trolley bus poles and their safety cables when extended to collect electric power from overhead conducting wires provided that there is a 2.5m ground clearance outside the body of the bus</li> <li>cameras or close-proximity monitoring systems mounted on the side exterior of a vehicle that extends not more than 70mm from the side wall of the vehicle</li> <li>devices for improving the aerodynamic performance of a vehicle that extend not more than 25mm from either side of a vehicle.</li> </ul> |   |   |
| <b>Note 4</b>   |   |   |
| Trolley bus poles when extended to collect electric power from an overhead conducting wire are not included in determining whether a vehicle complies with the height requirements in <b>Table 3-1-1</b> .  |   |   |

**Table 3-1-2. Dimension tolerances**

| Dimension | Permitted tolerance |
|-----------|---------------------|
| Width     | 2550 + 0            |
| Height    | 4300 + 0            |

### 7-3 Static roll threshold (SRT)

| Reasons for rejection | Summary of legislation  |
|-----------------------|---|
|                       | <p>2. The method of calculating the SRT was not:</p> <ul style="list-style-type: none"> <li>a) a physical test of the vehicle on a tilt table according to the procedure in SAE J2180 – Dec 1998 or by a procedure approved by International Accreditation New Zealand (IANZ), or</li> <li>b) a method approved by the Transport Agency and published on the Transport Agency’s website.</li> </ul> |

| Reasons for rejection | Summary of legislation  |
|-----------------------|---|
|                       | <p><b>3.3 Compliance with SRT</b></p> <p>2. A vehicle of class TD, other than an exempt vehicle (<b>Note 1</b>), that is first registered on or after 1 July 2002 and is required to comply with the SRT specified in 1, must be certified for SRT in accordance with 7 to 9 if it has a body height or load height above the ground that exceeds 2.8m.</p> <p><b>Methods for determining SRT</b></p> <p>4. SRT must be determined by one of the following methods:</p> <ul style="list-style-type: none"> <li>a) a physical test of the vehicle on a tilt table according to the procedure in the <i>SAEJ2180-DEC 1998 of The American Society of Automotive Engineers</i> and carried out using a procedure approved by International Accreditation New Zealand, or</li> <li>b) a calculation using the “SRT Calculator” computer program approved by the Transport Agency, or</li> <li>c) a method approved by the Transport Agency and published on the Transport Agency’s website .</li> </ul> <p><b>Determining the appropriate loading of a vehicle</b></p> <p>5. The following procedures must be applied to determine the appropriate vehicle loading:</p> <ul style="list-style-type: none"> <li>a) for mixed freight loads and uniform density loads:           <ul style="list-style-type: none"> <li>i. if the vehicle is loaded to the maximum internal body height or to the maximum height specified in <i>schedule 4</i> of the <b>Vehicle Dimension and Mass Rule</b>, the maximum allowable gross mass must be determined</li> <li>ii. if the vehicle is loaded to the maximum allowable gross mass specified in <i>schedule 4</i> of the <b>Vehicle Dimension and Mass Rule</b>, the maximum allowable load height must be determined</li> </ul> </li> <li>b) for all other loads, for a particular height above ground level of the centre of gravity of the load, the maximum allowable gross mass of the vehicle and its load must be determined.</li> </ul> |

## 7-4 Swept path

### Requirements

#### Background

The Land Transport Rule Vehicle Dimensions and Mass 2016 (the Rule) specifies requirements for dimensions and mass limits for vehicles operating on New Zealand roads. The Rule sets in place a regulatory regime so that vehicles are operated safely.

The Rule includes requirements for overdimension vehicles including travel restrictions and piloting to manage the risk to public safety. The Rule also recognises that with appropriate design an overdimension vehicle can be configured to perform cornering manoeuvres and use no greater road space than a maximum size standard vehicle. Therefore the Rule provides for the road space requirements (swept path) of overdimension vehicles to be assessed and if appropriate be exempt from certain specific requirements in the Rule.

While not generally overdimension vehicles, the Rule also contains an exemption for certain classes of buses in respect of determining over-length or forward distance limits based on swept path performance measures.

The assessments for swept path compliance are to be carried out by a vehicle inspector or inspecting organisation by using a method approved by the Transport Agency published on the Transport Agency's website.

The following lists the provisions of the Rule which provide swept-path based exemptions and the performance measures applying to each provision.

| Exemption   | Performance measure  |
|---|--|
| <p><b>Section 3.5(1)</b><br/>           A bicycle rack fitted to the front of a bus of Class MD3, MD4 or ME is not included in determining the overall length of forward-distance.</p>  | <ol style="list-style-type: none"> <li>1. Swept width must not exceed 7.0m</li> <li>2. Frontal swing must not exceed 1.5m</li> <li>3. Steady state low speed swept width must not exceed 5.25m</li> </ol>  |
| <p><b>Section 6.9(1)</b><br/>           A Category 2 overdimension motor vehicle may be operated in accordance with the operating requirements for a Category 1 overdimension motor vehicle, provided any load or equipment carried by or attached to the vehicle does not exceed the maximum dimensions specified by the vehicle inspector or inspecting organisation.</p>   | <p>Not exceed 4.7m through a 90-degree turn inside a 50m radius wall at up to 5km/h</p>  |
| <p><b>Section 6.28(1)</b><br/>           A Category 1 or Category 2 overdimension vehicle does not have to comply with travel time requirements in sections 6.21(2), 6.22(2), or 6.22(3) of the Rule provided that the vehicle or any load or equipment it carries does not project outside the land in which it is traveling.</p> <p>Note: Ground spreader trucks operated without a trailer or towing a trailer not exceeding 2.55m in width and agricultural vehicles are also exempt from the time travel requirements.</p> | <ol style="list-style-type: none"> <li>1. Swept width must not exceed 7.0m</li> <li>2. Tail swing must not exceed 0.3m</li> <li>3. Frontal swing must not exceed 0.75m</li> <li>4. Steady state low speed swept width must not exceed 5.25m</li> </ol> |

**Section 6.33(3)**  
 A motor vehicle whose dimensions are within Category 1 and whose width does not exceed 3.1m does not have to be escorted by a class 2 pilot vehicle.  
 Note there are limitations to this exemptions set out in section 6.33(2) of the Rule.

1. Swept width must not exceed 7.0m
2. Tail swing must not exceed 0.3m
3. Frontal swing must not exceed 0.75m
4. Steady state low speed swept width must not exceed 5.25m

**Section 6.34(4)**  
 An overdimension vehicle within Category 2 may be escorted by at least one class 2 pilot vehicle. (By contrast if the performance requirement is not met, at least one class 1 pilot vehicle and one class 2 pilot vehicle are required).  
 Not exceed 4.7m through a 90-degree turn inside a 50m radius wall at up to 5km/h

**Certificate of compliance of vehicle swept path performance**  
 Providing exemption from the travel restrictions for an overdimension vehicle.

**Certificate of compliance of vehicle swept path performance (Category 2)**  
 Giving a category 2 overdimension vehicle the right to operate in accordance with category 1 overdimension operating requirements.

## 7-5 Dynamic performance

Reasons for rejection | Tables and images | Summary of legislation

8. A vehicle certified as a high productivity vehicle does not meet the applicable axle and axle set requirements and the gross mass limits in parts 3 and 4 of Schedule 3.

Reasons for rejection | Tables and images | Summary of legislation

**Table 7-5-1. Dimension requirements<sup>1</sup> for vehicles and vehicle combinations**

| Dimension  | Distance (metres except where indicated otherwise)                           |
|--|--|
| <b>Width<sup>2</sup></b>   |  |
| Two-wheeled vehicles of classes AA, AB, LA, and LC                             | 1.1  |
| All other vehicles   | 2.55, or 1.275 from each side of the longitudinal centre-line of the vehicle |
| <b>Overall length (excluding collapsible mirrors)</b>                          |  |
| Towing vehicle and semi-trailer with:  |  |
| • a quad-axle set with two steering axles (and first registered before 1/2/17) | 18   |
| • any other axle set   | 19   |
| <b>Height<sup>3</sup></b>  |  |
| All vehicles   | 4.3  |

**Notes:**

- 1** Unless otherwise stated, the dimensions in **Table 7-5-1** are maximum dimensions.
- 2** For items not included in determining whether a vehicle complies with width restriction, see **section 3.4 (Land Transport Rule: Vehicle Dimensions and Mass 2016)**.
- 3** For items not included in determining whether a vehicle complies with height restrictions, see **section 3.6 (Land Transport Rule: Vehicle Dimensions and Mass 2016)**.
- 4** Ground clearance for a heavy motor vehicle does not include flexible mudflaps, wheels, tyres or devices designed to discharge static electricity.
- 5** The tow coupling position is the distance rearward from the motor vehicle's rear axis to the centre of the tow coupling.
- 6** The coupling point distance (for an A-train) is the distance between the rear axis of the semi-trailer and the tow coupling centre of the full trailer.
- 7** For other requirements relating to the inter-vehicle spacing between a towing vehicle and a full trailer, see **section 3.14(1) (Land Transport Rule: Vehicle Dimensions and Mass 2016)**.
- 8** Includes all attachments to vehicles except collapsible mirrors. For requirements relating to turning circle, see **section 3.7(1) and 3.7(2) (Land Transport Rule: Vehicle Dimensions and Mass 2016)**.