Wood Flow Logistics 2014

Innovations in Log Transport

Warwick Wilshier
Williams & Wilshier Limited

March 2010 Land Transport Rule
Vehicle Dimensions and Mass Amendment 2010

HPMV to operate under permit

- < 20m with weights above 44 tonne
- > 20m plus with weights above 44 tonne
- Some increases in length without permit – eg 22m logtrucks
Industry Expectations

- Improved safety
- Less trucks with fewer drivers to shift a given volume
- Better Fleet & capital utilisation
- Less Fuel & operating costs per tkm

All of which should result in:

“Improved international competitiveness for our clients”

2011 Pro Forma Designs

- Generic Vehicle configurations up to 22.3m
- Approved by industry peer groups
- Alternatives required P.B.S Analysis
- Some trial vehicles up to 25m
Austroads document released showing elevated risk at 23m+

Draft document developed to manage 23-25m vehicles on specified roads

23m Pro forma configurations in discussion
2012/13 More Change

- Transport agency introduces “50max” concept
- 9 axles 50T on all State Highways and approved local authority roads. “General access”
- 23m Pro Forma approved
- Agency focus moving from HPMV to “50Max”
- RCA’s reluctant to allow increased axle mass
Gains and Losses
- 20m overall length to 23m
- 2x5m logs on trailer to 2x6.1m logs
- IVS reduced from 1.1m to 800mm
- Trailer front overhang increased from 2m to 3.2m
- Longer, Lower, and Safer
- Increased tare weight and capital cost
- Vehicle required to operate under permit.

Current Configurations

<table>
<thead>
<tr>
<th>Configuration</th>
<th>Gross Weight</th>
<th>Net Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>6x4 Truck and 4 Axle Trailer</td>
<td>44</td>
<td>28.5</td>
</tr>
<tr>
<td>8x4 Truck and 3 Axle Trailer</td>
<td>44</td>
<td>28.5</td>
</tr>
<tr>
<td>8x4 Truck and 4 Axle Trailer</td>
<td>44</td>
<td>27.6</td>
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<tr>
<td>HPMV Permit 48T</td>
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<tr>
<td>8x4 Truck and 5 Axle Trailer &quot;50Max&quot;</td>
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<td>31.3</td>
</tr>
<tr>
<td>HPMV Permit 54T</td>
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<td>35.3</td>
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<tr>
<td>HPMV Permit 58T</td>
<td>57</td>
<td>39.3</td>
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<tr>
<td>9 Axle &quot;B Train&quot; &quot;50Max&quot;</td>
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<td>30.8</td>
</tr>
<tr>
<td>HPMV Permit 54T</td>
<td>53</td>
<td>34.8</td>
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<tr>
<td>HPMV Permit 58T</td>
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<td>38.8</td>
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</table>
Mainstay vehicle 8 x4 truck & 4 axle trailer – Now most inefficient

What to purchase – 3 or 5 axle trailer?

Increased axle mass “No go” in many areas

50Max attractive option with easy permitting

HPMV very complex – Vehicle attribute sheets and multiple permits
### Permit to exceed mass limits

**Conditions:**

1. The gross mass of the vehicle with the load must not exceed 54,000 kilograms.

#### AXLE WEIGHT FLEXIBILITY: AXLE GROUPS

<table>
<thead>
<tr>
<th>Axle Number</th>
<th>Axle Type</th>
<th>Axle Group</th>
<th>Axle Weight Limit (kg)</th>
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<tr>
<td>2</td>
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<tr>
<td>3</td>
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<td>3</td>
<td>3000</td>
</tr>
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</table>

**Spreading Loss Premises Act:**

- 0%: 1.94 kg
- 1.5%: 3.36 kg
- 3.5%: 5.36 kg
- 5%: 6.88 kg

*Single-tyred axle, **Two-tyred axle, ****Four-tyred oscillating axle, *****Eight-tyred oscillating axle*

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### ROUTE AND SPECIAL INSTRUCTIONS

Travel is restricted to the following State Highway RETURN routes:

<table>
<thead>
<tr>
<th>Section</th>
<th>Highway</th>
<th>From RP</th>
<th>From Junction</th>
<th>To RP</th>
<th>To Junction</th>
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<tr>
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<td>5.256</td>
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</table>

*This permit does not cover travel on Local Authority roads unless specified below*

Kawerau District Council has granted approval for travel on the following roads:

- Manusouli Drive
- Ferry St

Kawerau District Council: Tom McDowall, Ph: 07 380 6099, Email: tom.mcdowall@kaweraudc.govt.nz
SOHAX: Permit for High-Productivity Motor Vehicle to Exceed Mass Limits

UNDER Land Transport Rule: Vehicle Dimensions and Mass 2002

Permit No. S2014-HTMV-13-189

TSL No. 299217

TSL Company Name: Williams Woodburn Limited

Permit No. S2014-HTMV-13-189

It is hereby authorised to use the vehicle combination(s):

Registered Truck: PL240

Trailer 1: WW75J

Trailer 2:

for high productivity motor vehicle trips to carry divisible loads with general access to the roads, subject to the region of travel restrictions specified in conditions 6(a) to 6(c) of this Permit, and subject to the conditions and maximum mass limits in this Permit.

The above vehicle combination(s) has a minimum of nine (9) axles in the axle configuration displayed in the diagram below:

SOHAX 6x2 double-rect and three half-trailer (4x2)

CONDITIONS

The permit is void if any of the following conditions are breached:

1(a) The gross mass of the vehicle with the load must not exceed 50,000 kilograms.

1(b) The total mass on any axle, axle set, and combination of axles of the vehicle combination must not exceed the mass limits shown in the table conditions 3(b), 4(b) of this permit.

2 The vehicle must have an RSH stability control fitted and active. That is, EBS brakes with the roll stability function turned on. Alternatively, a trailer without EBS brakes can operate with a minimum operating basic roll threshold (SRT) of 0.4p, provided documentation is carried to demonstrate this to enforcement officers.

3 This permit is void and of no effect if the permit is altered or mutilated without authority or any of its terms or conditions are breached.

4 This permit must be carried in the vehicle and must be surrendered for inspection on the demand of any enforcement officer, or an authorized agent of NZ Transport Agency or a road controlling authority.

5 The general terms on the reverse of this form apply and must be complied with.

6 Travel is permitted in the Northland and as specified in conditions 6(a) to 6(c) on the reverse of this form subject to the restrictions specified.

Authorized Issuing Officer:

Date of Issue: 25/11/2013

[Signature]
Remote information transfer system
Remote scale read out
Works on most android phones & tablets
App available from Google Playstore
Multiple configurations
Programmable overload values
Significant effort gone in to development of HPMV
Stalled by RCA’s who do not want an increased in pavement wear
Continual dimensional change driven by transport agency
High risk of redundant equipment
Shift to 9 axle combinations 50Max
Logging industry wants 8 axles 48Max
Biggest gains 23M Pro forma, 800 IVS, 3.2M front overhang