

vehicle dimensions & mass

Opportunity to use lower bound HPMVs to improve freight efficiency

The NZTA is looking at new opportunities to unlock freight productivity and drive economic growth, while maintaining high standards on structures and pavements. The good news is that this can be achieved with little or no capital investment in roading assets or maintenance costs for road controlling authorities.



Lower bound high productivity motor vehicles (HPMV) has been developed as a concept that involves pro-forma designs for longer vehicles, which track on the road the same as standard class 1 vehicles and with pavement loadings similar to the current heavy vehicle fleet. Lower bound HPMVs achieve this being modified to better distribute the weight across the vehicle. This allows for modified class 1 vehicles to operate at weights up to 50 tonnes, without placing significant additional pressure on pavements or structures. The minimal impact on roading assets could allow greater network access in the near future.

For the time being lower bound HPMVs will be permitted to specific routes, just as all HPMVs currently are. as the road transport industry takes up lower bound vehicles, the network will be

progressively opened up for access. Eventually this will allow for an option to change the current rules and allow these new vehicles to have full network access and become 'business as usual'.

'This is a great opportunity to alleviate the concerns of asset managers and territorial authorities and early indications are looking good,' says Graham Taylor, NZTA's National Network Optimisation Manager. The NZTA will work with Local Government New Zealand to ensure this is widely communicated through regional zone meetings.

Lower bound HPMV is also based on extending the current 44 tonne 16m wheelbase to 20m which allows a 50-tonne limit without additional effects on most bridges. To avoid additional pavement wear, this limit is only available to a modified fleet such

as 9 and 10-axle B-trains and trucks and trailers with 5 axles on the trailer.

The other requirement is that these vehicles must track the same as class 1 vehicles to ensure there are no adverse alignment effects. The overriding requirement is that safety of road users must not be comprised.

The NZTA has commenced a number of workstreams to better understand the effects on bridges and pavements together with vehicle designs to ensure the concept is sound. This specialist advice will culminate in a business case to determine the level of uptake by industry, cost to operators and the anticipated level potential freight productivity that might ensue. This work may potentially lead on to looking at options for amending the Vehicle Dimensions and Mass (VDM) Rule.

VDM Rule: two years on

We have certainly come a long way since the amended VDM Rule came into effect and introduced HPMVs in May 2010. Here are some statistics and a few highlights over that time:

- 1876 HPMV applications have been received since 1 May 2010 – 782 permits were issued for higher mass and 1094 were issued for over-length HPMVs.
- We have investigated 4500kms of potential routes that will make up the strategic HPMV freight network.
- Approximately 2900 kms has been approved for HPMV access.
- Productivity gains in the first year showed a 20% reduction in trips for the same freight task under higher mass permits and a 14% reduction in trips for over-length. Benefits to the economy were estimated at \$9 million with no capital investment.
- The NZTA has produced an HPMV manual setting out the current policy, standards, processes and procedures for the permitting of HPMVs.
- We have started a project to simplify and integrate processes for permitting heavy transport vehicles as a means of improving customer service and freight productivity.

We are learning more about the capacity of our structures to allow for greater freight productivity. We have recognised businesses that have benefitted from the VDM Rule amendment, with some of these operations profiled in our VDM newsletters over the past two years. We're also seeing an increasing number of articles in road transport industry magazines of operators who are sharing success stories with new rigs and innovative pro-forma designs.

For some operators, there is still much work to do, particularly when it comes to higher mass vehicles. The NZTA has recognised that some members of the road transport industry have not taken up HPMV due to the level of penalties they may be liable for from permit offences. These offences relate mostly to the enforcement of permit conditions which can result in significant fines and HPMV permits being revoked and trucks parked up. One of the issues is that breaching just one axle load invokes voiding the permit and very large fines that are far beyond the effect caused by that axle. The NZTA together with the NZ Police and the Road Transport Forum have set up a working group to address these concerns. The working group is making good progress and the NZTA is working with the Ministry of Transport to see how timely changes can be made to regulations over the coming year. In the meantime, we will investigate practical interim solutions and get these underway.

A further monitoring evaluation and review will be conducted in 2013 to determine how the first three years have gone.

Key HPMV routes are opening up

The NZTA's work assessing routes for HPMV access is continuing to bear fruit. Structural analysis of Okere Bridge on State Highway 33 between Rotorua and Tauranga has shown that it is now capable of HPMV loading up to 62 tonnes. This is a key route which connects the central North Island to the Port of Tauranga and carries an estimated 350,000 tonnes of forestry and agriculture freight every year. Strength testing has been completed on the circa 1959 bridge which until now was off limits to some heavy vehicles.

Another structure that was, until recently, off limits is the Mohaka Bridge located in the Hawke's Bay on State Highway 5 between Napier and Taupo. Following some extensive strengthening, this bridge is now open to full HPMV on what is also a high volume freight route.

Check out the new HPMV guidance maps on our website. These maps tell a good story about how the network is opening up with the number of restrictive structures around the country being reduced compared to the maps we published a year ago. On investigation, routes that were put forward for investment are opening up without the need for such investment – Wellington to Masterton via the Rimutakas is one example. Road transport operators should review these maps before submitting an HPMV application and talk to their regional permit issuing officers.

Supporting vehicle documentation now required for all HPMV permit applications

In the past, some applications for higher mass HPMVs have exceeded the vehicle's legal carrying capacity and this has resulted in delays in processing applications. To help streamline the process, the NZTA now requires operators to provide vehicle documentation confirming their vehicle has the strength and braking capacity to support the higher mass being applied for. This also confirms vehicle safety features are in place and active.

Until now, the NZTA has carried out coding checks but this process has since been removed from the services that we are able to offer. We have appointed heavy vehicle specialist certifiers who can provide this service for a moderate fee ranging from approximately \$150 to \$500, depending on the information provided. The good news is that the confirmation of the vehicle's capability only needs to be completed once per vehicle – in other words the results can be used for multiple and future HPMV applications.

You can view a list of NZTA-approved heavy vehicle specialist certifiers on our website.



For more information

For more information, please contact:

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Visit the HPMV webpage at: www.nzta.govt.nz/HPMV