

## **Submission on the Review of the Vehicle Dimensions and Mass (VDAM) Rule- Yellow Draft July 2016**

### **1 Introduction**

- 1.1 TRAFINZ (The New Zealand Traffic Institute Inc) represents a wide grouping of NZ local authorities, covering the majority of the New Zealand population. Its membership includes regional councils, the major metropolitan cities and smaller provincial authorities as well as private sector and non-local government members.
- 1.2 TRAFINZ recognises that the aim of the Review is to enable improved transport productivity through ensuring a better fit than currently exists between vehicles and the roading network. TRAFINZ agrees that a comprehensive review of the Rule is needed. The VDAM Rule needs to support a range of competing elements such as economic growth, improved public road safety and the delivery of goods and services to the public set in the context of national transport policy.

### **2 Impacts on local roads**

- 2.1 The introduction of the proposed new rules is not without risk and there is the need to understand fully the potential infrastructure consequences for both urban and rural local road networks.
- 2.2 The total cost implications of heavier and larger dimensioned vehicles on local roads have not been fully accounted for in the evaluation framework. Extra costs will arise on local urban roads as a result of extra damage to kerbs, traffic islands and street furniture in shopping and residential streets. These road areas have been designed, consistent with their One Network Access functional roading classification, for safe low speed operation. Traffic lanes are narrow, often under 3metres, and kerb radiuses are tight. They are easily driven by moderate-sized delivery vehicles but Councils report that larger trucks are increasingly using these roads and often have to drive over kerbs and traffic islands, causing damage.
- 2.3 Heavier axle loading for urban buses can be expected to cause accelerated damage to some pavements.

- 2.4 Trafinz has seen the road pavement effects analysis by the RCA Forum Special Interest Group on Low Volume Roads. Their conclusion is that some of the assumptions adopted by IDS in their report for NZTA on the impact of 7 and 8 axle trucks were highly questionable and the pavement damage costs for local roads of higher gross mass limits may be significantly underestimated. Trafinz supports the view of the RCA Forum that further work is necessary before the limits are increased.
- 2.5 An increase in the cost associated with the maintenance of the local transport network for heavier vehicle use will as a consequence need alignment with Councils' Asset Management Plans and Long Term Plans and detailed consideration of the funding streams for this work.
- 2.6 Trafinz also agrees with the view of the RCA Forum that the benefits of the various rule changes proposed may be overstated. The analysis supporting the Rule changes does not allow for demand elasticity.
- 2.7 It is assumed that fewer trucks will be required and that these more modern trucks will have less crashes in total. Safety benefits are the largest component of the benefits. However the lower costs of goods transport will encourage more transport by road, shifting some goods from safer modes such as rail. A decrease in the cost of transport of 10% has been shown in Australian studies to result in an increase in road freight demand of 8.6% (elasticity -0.86). Such a shift would drastically reduce the magnitude of the benefits claimed for the Rule changes.
- 2.8 Additional Road User Charges (RUC) will be generated by the changes proposed and the charging regime will be better targeted to the roading infrastructure costs of the various vehicle types and axle loading arrangements.
- 2.9 However there is no special mechanism available to fairly allocate these additional funds between local Councils and NZTA (State Highway) to cover accelerated damage to their roads. For Councils these RUC fund transfers need to include the local share of necessary repair and pavement improvements, which otherwise would be an unexpected charge on their property rating base. This needs further detailed discussion with Local Government representatives.
- 2.10 TRAFINZ also suggests that funding for local roads subject to "rapid failure" from heavy bus and goods vehicle use be provided for, say, the next 5 years on the same basis as special funding for road damage due to natural disaster.

- 2.11 In relation to the proposals for a change in vehicle height limits, a specific and potentially significant constraint in the Greater Christchurch network is the Lyttelton Tunnel (SH74). The proposed change to the vehicle height rule could well mean that more vehicles may be diverted to less appropriate alternative local road routes because they cannot use the existing tunnel. With the current impediment to alternative routes to the Port of Lyttelton more acute since the Christchurch earthquakes and a projected significant increase in freight quantities to the Port of Lyttelton from across the South Island, this potential infrastructure impediment, cited in the Review document, does need very careful consideration. TRAFINZ has supported the Christchurch City Council's earlier submissions in relation to this matter.
- 2.12 A critical issue Councils will also need to consider is how increases to axle mass and gross mass limits will be appropriately managed on their networks. It is currently difficult to protect transport structures such as bridges and culverts from damage by vehicles exceeding sign posted weight or speed limits traversing these structures illegally. Access restrictions may be required beyond those already in place.
- 2.13 TRAFINZ recommends that the transport industry should take full responsibility by equipping their fleets with GPS and other technology to provide them with full oversight of their operations. We understand that such equipment exists now but is only available in part of the fleet. The Discussion Document notes that operators compliance with present axle limits is not good with nearly one in five (18%) of truck and trailer units being overloaded. In other supporting reports the figure of 25% is used. This indicates that operators either do not know the true situation or they are ignoring it. The equipment needs to record axle loadings and routes taken. There should be a requirement placed on the industry to update the heavy goods vehicle fleet accordingly and for the information collected to be stored and made available to NZ Police and RCAs for their use in responding to complaints received.
- 2.14 Even when information is available from GPS data or otherwise, enforcement of the Rule is a difficult matter. NZ Police cannot issue infringements under Section 16A of the Land Transport Act (restriction of heavy traffic on roads) and have to take every breach of a restriction to court which is time consuming. The provisions in the Local Government Act for Heavy Vehicle restrictions allow police to issue infringements for a breach of a bylaw, but the infringement fee is minimal and would need to be significantly increased if it is to be effective. There is a separate need for the Land Transport Act to be updated to allow the police the power to issue infringements for breach of 16A.

- 2.15 A further barrier to effective enforcement is that there is no clarity on the road as to whether a High Performance Motor Vehicle is working under the provisions of a permit or not at the time it is observed travelling along local roads or using weight sensitive bridges. We understand that such vehicles display an H plate at all times and there is no indication to show when they are operating under an overweight or over length permit, or perhaps under a 50MAX permit. Police officers thus cannot be certain whether an offence has occurred without stopping suspect vehicles and inspecting their paperwork.

### 3 Impacts on Road Safety

- 3.1 The NZ heavy vehicle fleet is old (average age 17.5 years) and is relatively unsafe. Its fatal crash rate is 3 times that of light vehicles nationally on a kilometre travelled basis. In some regions heavy vehicle crashes are involved in up to 50% of all fatal and serious injury crashes. Eighteen percent of all NZ road fatalities involve heavy vehicles.
- 3.2 Moving to larger heavy goods vehicles with greater mass may result in crashes being more severe and wider vehicles could also cause problems for lighter vehicles, pedestrians and cyclists
- 3.3 TRAFINZ agrees that for any specific freight task newer imported vehicles will be inherently safer than those they replace. However this does not necessarily mean that the annual total of heavy vehicle road fatalities will reduce while the road freight demand in total continues to increase; 58% increase predicted over the next 30 years. This is because the vehicles that are replaced can be expected to remain in the fleet, perhaps with different owners, and only some of the oldest little used vehicles will be scrapped. The present straight lining of heavy vehicle crash rates and the continuing high average age of the fleet support this view.
- 3.4 A 2014 Monash University report on the benefits of crash avoidance technologies referenced in the Discussion Document concluded that fitting Autonomous Emergency Braking Systems to all heavy vehicles would have the greatest effect on fatal NZ heavy vehicle crashes.<sup>1</sup> ; an estimated annual reduction of 25% with the saving of 14 lives. Significant reductions were shown for other safety related systems that could be implemented now by the freight industry.
- 3.5 Rather than wait for the slow trickle down of modern technology through the fleet TRAFINZ advocates that other actions should be taken in parallel with the VDAM Review so that real improvements in heavy vehicle fleet safety and fatal accident reductions can be achieved at an early date. Such actions would also lead to a more rapid modernisation of the fleet, with higher gains in efficiency and productivity available sooner.

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<sup>1</sup> Newstead (2014), Potential Safety Benefits of Emerging Crash Avoidance Technologies in Australasian Heavy Vehicles, at <http://www.monash.edu.au/miri/research/reports/muarc324.pdf>

- 3.6 The Safer Journeys Action Plan 2013-2015 under the heading 'Actions- Accelerate the exit of unsafe vehicles' suggest "One possible action is to introduce a safety levy when vehicle ownership is changed, or as part of vehicle licensing, to be used to incentivise vehicle scrappage" Such measures would also have a beneficial effect on NZ's Greenhouse gas emissions, as Heavy Goods Vehicles are estimated in the Discussion Document as contributing 21.5% of the transport component of New Zealand's CO2 emissions.
- 3.7 TRAFINZ suggests that such mandatory and other safety and emissions initiatives should form a package of Government proposals as part of the VDAM review actions.

## 4 Specific Proposals for VDAM Revision

TRAFINZ comments below on the various proposals for Axle Mass, Gross Mass and Vehicle Width and Height. It has no comment on the other proposals.

### Proposal 1

1A. Increase the gross mass limit for 7-axle combinations with a minimum wheelbase of 16.8m from 44,000kg to 45,000kg

**Trafinz View. Not Supported.** An increase in wheelbase will make the vehicles less manoeuvrable in urban streets and intersections and windy rural roads. The increase in gross mass will increase pavement damage.

1B. Increase the gross mass limit for 8-axle combinations with a minimum wheelbase of 17.4m from 44,000kg to 46,000kg.

**Trafinz View. Supported in part.** The increase should be only to 45,000kg and **conditional on lower weighing tolerances- as Proposal 4.**

### Proposal 4

Replace the existing weighing tolerances with a weighing tolerance of 500 kg (axles and gross mass) and 1,000 kg (axle sets and groups) for all heavy vehicles.

**Trafinz View. Supported.** A modern load cell has an accuracy well below 500kg,

### Proposal 5

5A. Expand the current ability to apply for permits for additional axle limits for passenger service vehicles (buses) to include specified specialist vehicles: concrete mixers; rubbish trucks; and ground-spreader trucks.

5B. Provide increased axle mass limits, on permit only, for these specialised vehicles.

**Trafinz View. Not Supported.** These vehicles already cause severe stress to pavements and this will get worse if the axle mass limits are raised. We suggest that all other means of better distributing vehicle loads be investigated such as adding extra axle sets.

### Proposal 6

Increase the gross mass limits for approved over-length simple trailer combinations from 36,000kg to 40,000kg.

**Trafinz View. Not supported.** These vehicles (e.g. car transporters) are already too long for many of the urban locations they service. Allowing additional mass will lead to a demand for even longer vehicles.

### Proposal 7

Amend the Rule to allow a new tyre size category (444mm or wider) and define standard tyres as tyres narrower than 355mm.

**Trafinz View. Supported,** subject to the maximum axle masses being proposed for axles with single mega-tyres of 444mm or wider being reduced from that proposed, due to the expected accelerated pavement damage from their use. Trafinz supports the lower mass limits proposed in the RCA Forum submission. (5,000, 6,000 and 6,700kg)

### Proposal 8

Extend maximum allowable width to 2.55m for standard vehicles, inclusive of load securing devices.

**Trafinz View. Not Supported.** The present vehicle width of 2.5 m should remain with the current allowance of a further 0.025m each side for load securing devices. The proposal would result in all vehicles becoming slightly wider, with a small but important impact on traffic in adjoining or opposing lanes and a greater likelihood of impact with street furniture. In urban streets many trucks are already out of scale with their surroundings and Councils

cannot widen to accommodate them properly. On winding rural roads wider vehicles will have tyres closer to the edge of seal, increasing the probability of edge break.

### **Proposal 9**

9A. Allow close proximity monitoring devices.

9B. Constrain mirror width to current limits.

9C. Allow up to 25mm on either side of a vehicle for aerodynamic tabs.

**Trafinz View. Proposal 9A is opposed** in relation to mounting any device to a 2.55 m wide vehicle, should Proposal 8 be implemented. However, we support and encourage the mounting of CPMS devices on the outside of 2.5m wide vehicles, where not exceeding 25mm on each side. We also note that current camera and sensor technology is commonly mounted within the vehicle body (or on the rear) to reduce or eliminate blind spots.

**Proposal 9B is supported.**

**Proposal 9C is opposed** in relation to mounting aerodynamic tabs to a 2.55 m wide vehicle, should Proposal 8 be implemented. Proposal 9C would be acceptable on a 2.5m wide vehicle.

### **Proposal 10**

10A. Extend maximum allowable height to 4.30m, inclusive of load securing devices.

10B. Allow operators with suitable technology to temporarily exceed the height limit when raising the vehicle to clear obstacles.

**Proposal 10A is opposed.** An urban environment includes multiple height constraints - e.g. overbridges, overhead utility lines trees and cantilever signs, streetlights and traffic signals. Strikes occur on a relatively frequent basis. Any increase in maximum vehicle height is likely to result in an increase to the number of or severity of strikes and subsequent damage to structures. Similar issues arise on rural roads.

**Proposal 10B is not opposed.**

## 5 Other Matters

### 5.1 Extra Council Roading Costs

Trafinz submitted on the Discussion Paper “While extra Road User Charges revenue is expected as a consequence of the Rule changes there is no special mechanism to allocate necessary additional funds to Councils to cover unexpected extra costs.” We also submitted that funds for the “rapid failure” of local roads over the next 5 years should be specifically provided for.

The RIS states “Any significant demand for maintenance of the local road network can be taken into account by being elevated as a system level concern under the Government Policy Statement on Land Transport” **Trafinz would welcome the opportunity to work with MOT and NZTA and other parties on quantifying such system level concerns.**

### 5.2 Enforcement of the Rule

Trafinz submitted that it was concerned that there are real problems with enforcing any mass or route limits set on the use of goods vehicles on local roads at present and suggested that the industry be required to take steps such as the general provision and use of GPS recorders to monitor routes, relative to signed weak bridges and allowable routes for vehicles operating under a permit. We also suggested that the Police should be able to issue infringement notices under the Land Transport Act rather than take every breach to Court.

The Yellow Draft has proposed changes which will increase the probability that an offender will be required to unload. **Trafinz welcomes these changes.** We await action on our other suggestions, so the NZ Police enforcement effort can be more efficiently used in future.

### 5.3 Extra Incentives for Operators to Purchase Safer Vehicles

Trafinz recognises that new vehicles will include safety systems and suggested that monetary incentives should be used to accelerate their purchase and use. We suggested a safety levy adding to the cost of registering older less safe vehicles. We also suggested the fitting of under-run protection on trucks as recommended by the Cycling Safety Panel in 2014. While we support the fitting of close proximity monitoring devices we do not consider that they will always prevent under-running crashes. **Trafinz will continue to advocate pro- active policies to improve the safety of the road goods transport system.**

## 6 Summary

- 6.1 TRAFINZ supports the Review and its major aim to enable improved transport productivity. However changes to the Rule will impact widely and there is a risk that the impacts on local roads have been seriously underestimated. The net national benefits of the Rule changes proposed may be substantially lower than estimated.
- 6.2 While extra Road User Charges revenue is expected as a consequence of the Rule changes there is no special mechanism to allocate necessary additional funds to Councils to cover unexpected extra costs. While this is not a Rules matter directly TRAFINZ submits that such provisions should be an integral part of any decisions that are taken to amend the Rule.
- 6.3 Enforcement of the axle weight limits in the Rule is difficult currently due to poor information being available on loads and routes taken. Many heavy goods vehicles are not complying with the present Rule. Councils are particularly affected by operators causing accelerated damage to bridges and other structures with posted weight limits and communities are concerned about very large vehicles using minor roads. Legal redress is difficult to obtain and time consuming.
- 6.4 TRAFINZ submits that operators take full responsibility for the problems by equipping their heavy vehicles with GPS and axle load sensing equipment and that this requirement should be placed on them as one of the outcomes of the Review.
- 6.5 TRAFINZ also submits that the Land Transport Act be amended to allow Police to issue infringement notices under S16A .
- 6.6 The NZ heavy vehicle fleet is old and relatively unsafe with a crash rate 3 time that of light goods vehicles. TRAFINZ submits that actions be taken to incentivise operators to adopt the latest safety and emissions technology at an early date, rather than relying on gradual change through larger modern vehicles being purchased as a response to any proposed Rule change.
- 6.7 TRAFINZ comments on various of the proposals for VDAM revision in the text above.

TRAFINZ appreciates the opportunity to make these submissions on behalf of our communities. We welcome involvement in this important area of transport policy development, and are pleased to comment further as requested.

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