Office of the Associate Minister of Transport

Chair

Cabinet Economic Growth and Infrastructure Committee

REVIEW OF THE LAND TRANSPORT RULE: VEHICLE DIMENSIONS AND MASS 2002

Proposal

1. I want to inform the Committee of my intention to make a new Land Transport Rule: Vehicle Dimensions and Mass 2016 (the 2016 Rule), that replaces the current Vehicle Dimensions and Mass Rule 2002 (the VDAM Rule). The 2016 Rule will include changes to vehicle dimensions and mass limits, permitting, and overdimension loads. It will restructure the existing VDAM Rule to improve its accessibility for the sector.

2. This paper covers:

   Part A: Executive summary and background to the review

   Part B: Proposed substantive changes to the requirements within the VDAM Rule

   Part C: Commentary on the likely impacts on important outcomes

   Part D: Consultation feedback and other matters

   Appendices: various supporting detail.

Part A: Executive summary

3. The VDAM Rule has been reviewed by the Ministry of Transport (MoT) and the New Zealand Transport Agency (NZTA). The VDAM Rule was established in 2002, and applies to heavy vehicles operating on New Zealand roads that move people, livestock, goods and other freight, materials and special equipment. The VDAM Rule sets heavy vehicle size and weight limits, and performance and use requirements, while balancing productivity, efficiency, safety and cost objectives.

4. In 2010, Government delivered the first phase of productivity improvements through amendments to the VDAM Rule, as part of broader transport reforms for road infrastructure, heavy vehicles, road funding and road user safety. More recently, amendments in 2015 and 2016 provided increased mass limits through permitting, for buses. More phases are expected in line with improvements in road infrastructure and safety technologies over time.

5. The proposed 2016 Rule delivers productivity improvements, greater regulatory efficiency and reduced compliance costs without compromising the road transport system and road user safety outcomes. The goals of the main changes are:

- *Carry more in fewer trips*: Allow operators to carry more in fewer trips by better utilising the existing capabilities of heavy vehicles (within manufacturers' specifications), and capacity of the road network.

- *Encourage heavy vehicle fleet renewal and uptake of modern technologies*: Encourage fleet renewal by allowing industry to access a wider range of suppliers of vehicles built to international dimensions and mass limits with modern safety, emissions, and performance technologies.

- *Safer movement of large loads:* Provide for more effective planning in the safer movement of overdimension (large) loads.

- *Permit flexibility and standardisation:* Allow NZTA and local authorities greater flexibility in permitting and standardises the treatment of loads under permit to provide regulatory efficiency and reduce compliance costs.

- *Reduce overloading:* Decrease non-compliant operators' levels of accepted overloading by reducing weighing tolerance thresholds.

6. In 2015, a cost benefit analysis of proposed changes identified an expected net present value of $634 million over 30 years.[1] Following consultation in 2016, the proposed changes were amended. A detailed cost-benefit assessment has not been undertaken for the final proposed changes. However, expected net present value is likely to be comparable to the initial assessment.

7. A productivity assessment in April 2016[2] estimated the productivity impacts for different parts of the heavy vehicle fleet. For example, the width limit change allows increased pallet capacity for the refrigerated fleet resulting in $106 million net present value over 40 years.

8. The review of the VDAM Rule considered options for greater increases in dimensions and mass limits. At this stage, the existing road network's capacity precludes this.

9. Further increases could be possible as improvements in the road transport system occur, including stronger pavement and bridge infrastructure and the development of more effective monitoring and enforcement measures.

Background and context

Transport is vital to the economy

10. The road network serves New Zealand's social and commercial needs in moving people and freight around the country. The annual transport task is substantial:

- The equivalent of 50,000kg per person is transported around New Zealand.[3]

- 153 million passengers are transported by buses.[4]

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[1] By independent advisers Castalia (November 2015).
[2] *Vehicle Dimensions and Mass rule amendment proposals 2016*, Report for NZTA by Stimpson & Co.
[3] *National Freight Demand Study 2014* commissioned by the Ministry of Transport.

- 160,000 registered heavy vehicles travel a total of 4.2 billion kilometres.[5]

11. The National Freight Demand Study 2014 estimated that:

    - heavy vehicles make up seven percent of all road travel taken and move 91 percent of the national freight task
    - the transport task to increase by 58 percent over the next 30 years
    - the rate of growth for the movement of 29 types of commodities would vary widely, impacting on transport sectors differently and requires that we have a variety of transport options for end users.

12. The bus and coach sector is a significant contributor to tourism and public transport:

    - 3.2 million tourists visited New Zealand in the past year[6], with visitor arrivals expected to grow 4 percent a year to 2021[7].
    - China is the second highest visitor source country (after Australia), and in 2015, the number of Chinese tourists rose by 28 percent, with almost 80 percent using tour buses as their main form of transport [8].
    - Around 90 percent of public transport services are in the three large regions of Auckland, Wellington, and Canterbury. While each market has slightly different features, most passengers travel on buses in all three regions.[9]

13. The transport task would continue to largely rely on road transport, while rail, coastal shipping and air can be a better fit for specific types of freight.[10] For example:

    - Coastal shipping and rail is suitable for non-time sensitive, bulk freight moved over longer distances.
    - Air works well for more urgent, high-value freight.

The VDAM Rule ensures the safe, productive and sustainable use of the road network

14. The VDAM Rule, established in 2002 under the Land Transport Act 1998 (LTA), regulates heavy vehicles. The following summarises what is regulated by the Rule:

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[4] Figures from the Bus and Coach Association New Zealand.
[5] Vehicle numbers based on Motor Vehicle Register figures for 2015. Distance based on sales of RUC licences for year to June 2015.
[6] *Key Tourism Statistics* April 2016, Ministry of Business, Innovation and Employment.
[7] *New Zealand Tourism Forecasts 2015-2021* May 2015, Ministry of Business, Innovation and Employment.
[8] *Key Tourism Statistics* April 2016, Ministry of Business, Innovation and Employment; Tourism New Zealand *China Market Snapshot* June 2015.
[9] *Public Transport: New Zealand Household Travel Survey 2011-2014* October 2015, Ministry of Transport.
[10] Other modes were out of scope for the VDAM Rule review as the Rule relates to road transport. Alternative transport modes are dealt with by system reform under the Government Policy Statement on Land Transport (GPS).

Maximum size and weight limits	Dimensions (size)	• Width • Height • Overhang • Total length • Ground clearance	
	Mass (weight)	• Axle mass - weight borne by different axle numbers and configurations, tyre types and numbers • Gross mass - total weight of the vehicle and load	
Other requirements	• Conditions for overdimension loads • Towing requirements • Vehicle performance		
Road network general access	For vehicles that meet the maximum dimensions and mass requirements		
Road network access through permits	• Loads outside of general access standards (e.g. high-productivity motor vehicle (HPMV[11]) permits) • Additional vehicle performance requirements may be imposed	Permits are administered by: • road controlling authorities (RCAs) within local authorities, or • NZTA, where delegated by the RCA • NZTA, for the state highway network	

15. The VDAM Rule differentiates between:

- 'general access' limits, based on the assumption of an 'average' standard of road, that heavy vehicles can access across the entire road network. Within this, there may be occasional restrictions, for example, for low bridge clearances, or for weaker bridges (using weight and/or speed restrictions); and

- 'permitted' access – to allow overdimension or overweight vehicles to access the road network, within managed constraints to protect the road network; or where there may be additional risks for other road users.

16. In addition, exemptions are allowed by section 166 of the LTA, and can only be granted by the NZTA.

The easy gains were made in the 2010 amendments to the VDAM Rule

17. Amendments to the VDAM Rule in 2010 established the high-productivity motor vehicle (HPMV) regime to improve productivity. The HPMV regime allowed the introduction of 50MAX[12] vehicles in 2013. Productivity improvements include:

- An estimated $60 – 80 million in operator cost savings for the year ended April 2013.[13] These gains are within range of estimates made in the 2010 Regulatory Impact Statement (RIS) supporting the Rule change.

- Figures for 2013 to 2015 show an upward trend in the purchase of HPMVs.

[11] High-productivity motor vehicle (HPMV) permits allow loads that exceed a mass of 44,000kg or the maximum length for standard vehicles, to operate within higher axle limits, that are no wider or higher than general access vehicles, and meet specific loading requirements to operate on permitted travel routes where roads and bridges are able to accommodate the additional mass and/or length.

[12] 50MAX are specific types of HPMVs designed to operate on most roads. These trucks are slightly longer than standard 44 tonne vehicles, have additional axles (at least 9 axles in total) and can have a total weight of up to 50 tonnes. About 90 percent of the network is available for 50MAX without the need for further investment.

[13] *Monitoring, Evaluation and Review of the Vehicle Dimensions and Mass Rule implementation May 2011 to April 2013*, Stimpson & Co.

- HPMV figures for the second quarter of 2015/16 show:
    - average productivity gains of 14-20 percent, and commercial savings of $20-30 million, and
    - travel for standard heavy trucks (i.e. not HPMVs) is down 50 million kilometres compared with the same time two years ago, despite the economy growing over the past two years.

This review has already delivered amendments to secure gains for buses

18. In 2015, the VDAM Rule was amended to increase axle mass limits for high capacity urban buses operating public transport services. The heavier mass limits were only available by permit from the relevant RCA. This measure was designed to address congestion and capacity issues in major urban areas, particularly Auckland.

19. The VDAM Rule was further amended in 2016 to extend these mass limits to all buses, irrespective of capacity or purpose, again managed by RCA-issued permits.

Part B: Changes to the VDAM Rule

2016 amendments to the VDAM Rule

20. This suite of amendments to the VDAM Rule, which primarily relate to the non-HPMV sector of the heavy vehicle fleet, covers:

    B1: Mass limits (7 substantive proposals)

    B2: Dimensions limits (6 substantive proposals)

    B3: Over-dimension loads (6 substantive proposals)

    B4: Permitting (4 substantive proposals)

    B5: Re-writing the VDAM Rule

    B6: Consequential amendments to regulations (2 substantive proposals).

21. Minor amendments relating to hazard panels, oversize signs and pilot warning signs, pilot vehicle wheel rim diameter, and travel time and zones are set out in Appendix 1.

22. Proposals that were previously put forward but are not proceeding are in Appendix 2.

B1: Mass limits

23. Mass limit changes relate to general access and permitted limits, gross combination and axle mass, and weighing tolerance. These changes would result in:

    - better use of existing capacity within the road network
    - operators being able to more fully utilise existing heavy vehicle capacity

- compliant operators being able to increase payload through higher mass limits, made possible through reducing non-compliant weighing tolerance thresholds.

B1.1: Schedule 2, Part A (general access) and Part B (HPMV), axle mass limit increases

24. The changes (see Appendix 3) provide minor increases in axle mass limits for many individual vehicles. This would deliver productivity gains without overburdening the road network or compromising safety outcomes. There is likely to be minor increased pavement wear, the cost of which would be recovered through the RUC system.

25. In addition, a new passenger service vehicle (bus) limit is added for 3-axle buses. For buses with a rear tandem axle set comprising a twin-tyred axle and single standard tyre, the increased limit is 2,500kg, from 12,000kg to 14,500kg.

26. The benefits of the new bus limit include:

- increased passenger capacity, within manufacturers' design specifications
- an expanded choice of bus models from international suppliers
- opportunities for greater uptake of hybrid and electric buses under general access mass limits.

B1.2: Schedule 2, Part A, general access gross combination mass limit increases

27. These changes (see Appendix 3), provide increased general access gross mass limits for truck and trailer combinations, for:

- 7-axle combinations with a first-to-last axle length of at least 16.8m, from 44,000kg to 45,000kg, and
- 8-axle combinations, with a first-to-last axle length of at least 17.4m, from 44,000kg to 46,000kg.

28. Risks associated with increasing mass limits would be mitigated by the reduction in the weighing tolerance limit for these vehicles, from 1,500kg to 500kg (see below), and a reduced off-loading limit (as a result of proposed amendments to the LTA).

29. The benefit of these changes are:

- additional payload benefits of 1,000kg (7 axle) and 2,000kg (8 axle) for compliant operators with heavier load capacity. For example, a bulk liquids operator stated an increase to 45,000kg would reduce its tanker loads by 100 per day, the equivalent of 1.5 to 2.0 million kilometres per annum.
- more than 3,000 exemptions have been issued over the past three years for increased mass to 45,000kg. Under the new limits, these would not be required, reducing costs (indicative cost for an exemption application is $368 (inc. GST).

- reduced payload disadvantage that the more pavement-friendly 8-axle combinations currently have, compared to 7-axle combinations. This is due to the lower tare weight of 7-axle combinations.

- reduced non-compliance levels.

30. This change is expected to result in only minor increases in pavement wear. In addition, the longer axle length requirements would mitigate bridge risks.

B1.3: Schedule 2, Part C, axle mass limit increases for specialist vehicles

31. Changes to Part C of Schedule 2 (see Appendix 3):

    - increase axle mass limits under permit for the following axle sets:

        - twin-tyred axle in any set from 8,800kg to 12,000kg

        - twin-tyred axle with a single large-tyred axle in a tandem axle set and a 60/40 load share, from 14,600kg to 16,000kg

        - twin-tyred axle with a single large-tyred axle in a tandem axle set and a 55/45 load share, from 16,000kg to 18,000kg.

    - adds new axle mass limits for two twin-tyred axles in a tandem axle set, of:

        - 17,000kg, for axles spaced less than 1.3m apart

        - 18,000kg, for axles spaced 1.3m or more apart.

    - makes axle mass limits in Part C available to specialist vehicles under permit. The intended specialist vehicles include buses and other vehicles that, due to their transport task, have a significantly heavier rear-axle load, and are unable to spread their mass more evenly across all axle sets (e.g. rubbish trucks, dump trucks, concrete mixers and groundspreader trucks).

32. It would be within an RCA's permitting discretion to stipulate a mass limit that is less than the maximum provided for in Part C (but not less than Part A limits). New RUC rates relating to permitted mass would be set to apply to such vehicles.

33. The benefits of these changes are to:

    - encourage fewer trips on routes where an RCA believes the road network is sufficiently strong to handle the additional weight, and

    - encourage the introduction of electric buses, which have a heavier tare weight than diesel buses.

34. Expected impacts for productivity, pavement wear, bridges and safety outcomes are similar to those for axle mass limit and gross mass limit increases.

B1.4: Reduction in gross mass weighing tolerance limits

35. This change reduces gross mass weighing tolerances in the Land Transport (Offences and Penalties) Regulations 1999 (LT (O&P) Regulations):

    - for vehicles over 33,000kg, from 1,500kg to 500kg
    - for vehicles in the 11,000kg-33,000kg range, from 1000kg to 500kg.

    The existing tolerance in the Regulations of 300kg for front-steering axles (excluding axles on a trailer) would be adjusted to 500kg, so that all steer axles, under general access and permit, would have the same tolerance. The tolerance for all non-steer axle sets and groups would be set at 1,000kg. Existing weighing tolerances in the VDAM Rule for permitted vehicles would be transferred to the LT (O&P) Regulations, so that all weighing tolerances are contained in the one piece of regulation.

36. These changes mitigate risks associated with providing heavier mass limits. The benefits are:

    - providing greater control over operators who would likely take the opportunity to overload to higher amounts if tolerance and off-loading limits were not reduced
    - reducing the commercial disadvantage for compliant operators
    - transitioning operators to a stricter enforcement regime made possible by modern, more accurate weighing techniques
    - standardising the maximum weighing tolerance for individual axles for general access and permitted vehicles at 500kg.

B1.5: Pro-forma simple trailer combinations

37. It is proposed that the gross mass limit for approved over-length simple trailer combinations be increased from 36,000kg to 40,000kg. This limit has been assessed as safe for simple trailer combinations meeting specified performance and design standards (e.g. roll-coupled hitch, length).[14] The 36,000kg gross mass limit would remain the default mass limit for simple trailer combinations that do not meet performance and design standards required to obtain an over-length permit.

38. The review considered increasing gross mass limits for approved over-length car transporters (a form of simple trailer) from 36,000kg to 38,000kg. When assessing this, it was identified that simple trailer combinations equipped with a roll-coupled hitch meet higher safety requirements when compared to other simple trailer combinations.

39. While this is a significant increase in gross mass limits, the individual axle mass limits are still within current Schedule 2, Part A limits, and are not expected to have significant impacts on road infrastructure.

[14] Doug Latto, Transport and Mechanical Consulting (2014), *Stinger Steer Combinations – Higher Mass*

40. The benefits of this change include:

- allowing a broader range of transport tasks to utilise additional mass
- car transporters gain an additional two car carrying capacity per trip
- caters for the increasing weight of many new car types, such as 4WDs and SUVs.

B1.6: Changes to tyre size categories, including a new mega tyre category

41. This proposal adds a tyre size category for mega tyres (444mm or wider) with an axle mass limit of 7,600kg, which is consistent with the existing standard tyre rating in terms of pavement impact. This change would facilitate the increased use of mega tyres and would benefit operators by reflecting a greater variety of tyre sizes.

42. The existing definition for standard tyres would also be changed, to remove reference to rim diameter size, which is no longer considered necessary. Standard tyres would now be defined as all tyres smaller than 355mm width.

B1.7: Provide for load and location real-time monitoring

43. This change is an enabling provision intended to facilitate NZTA's consideration of future uptake of this technology, which may lead to more mass for heavy vehicles under permitting or other changes. It may lead to more vehicles being able to operate without permitting, if the technology becomes more widely used across industry.

B2: Dimensions limits

44. Changes to dimensions limits allow operators to:

- use existing capacity under manufacturer specifications
- access a wider range of vehicles built to international dimensions and mass limits that have modern safety, emissions and performance technologies.

B2.1: Increased width limit to 2.55m (inclusive of securing devices)

45. This change increases the maximum allowable width from 2.50m (plus 50mm for securing devices) to 2.55m (inclusive of securing devices e.g. ropes, chains etc).

46. Currently, the effective width for open body vehicles is 2.55m (i.e. 2.50m plus 25mm each side for load securing devices). Enclosed vehicles not using restraining devices (e.g. refrigerated vehicles, buses, solid-sided trailers), are restricted to 2.50m.

47. Benefits of this change include:

- an enclosed long trailer can be loaded with side-by-side pallets, rather than the current 'parquet' style. This increases capacity from 27 to 30 pallets, which equates to a 10% reduction in vehicle trips. This has a positive impact on the cost per tonne kilometre, and reduces vehicle noise and emissions.

- a broader range of purchase choices, of vehicles built to the international standard of 2.55m, that have modern safety, emissions and performance technologies. This is particularly the case for new hybrid and electric buses.

- estimated productivity benefits of $147.2 million in net present value, and an additional $34.7 million in health benefits, over 30 years.[15]

48. An increase in width diminishes vehicle separation, however:

    - Width cannot be isolated from other risk factors, e.g. road design, location, curvature, lane number and width, vehicle length, direction of travel (side-by-side or opposing traffic) and mitigations such as separation markings and devices.[16]

    - A combination of other changes (e.g. legislation, road improvements, vehicle technology and road policing) has influenced the longer-term changes in the road toll.[17] This also influences the safety impact of the width limit change.

49. A further factor for the width limit increase is that around 90 percent of the state highway network has 3.5m lanes, on which 74 percent of road transport kilometres occur. The Insurance Council of New Zealand submitted that moving from 2.50m to 2.55m width would not increase vehicle crash rates significantly.

B2.2: Increased height limit to 4.30m (inclusive of securing devices)

50. This change increases the maximum allowable general access vehicle height from 4.25m (plus 25mm for securing devices) to 4.30m (inclusive of securing devices).

51. The benefits of this change:

    - allows livestock vehicles (about one percent of the heavy vehicle fleet) to install add-ons that improve health and safety, and animal welfare, without the need to obtain an over-height exemption

    - enables industry to access Euro 6 vehicles (equipped with the latest emissions technology) that are built to the higher limit. The vehicles would be required to meet existing SRT requirements, designed to prevent rollovers.

52. The change in height limit would not increase crash rates because driver behaviour is the more important factor in height-related crashes. For instance, failure to fold back excavator booms and hiab cranes or to observe current clearance limits, or to plan overdimension routes to ensure clearances are sufficient for load height.

[15] Cost benefit assessment by independent advisers Castalia (November 2015), p.19.
[16] Analysis conducted by NZTA using the International Road Assessment Programme (iRAP) Road Attribute Risk factors.
[17] Ministry of Transport *Road Toll Report Year ended December* 2015.

53. There are six low clearance structures on the state highway network that pose difficulties and would require minor mitigation work. The NZTA estimate this cost to be about $1 million in total. On the local road network, there are many structures that are lower than the current 4.275m total limit, or between the current limit and the proposed 4.3m limit. All of these structures should currently be posted with warning signs, so no new action would be required of RCAs in consequence of these changes.

B2.3: Close proximity monitoring systems (CPMS)

54. This change provides an exception to the 2.55m width limit by allowing up to 50mm on each side of a vehicle for CPMS. CPMS raise a driver's awareness of the vehicle's proximity to objects and people, and is an appropriate response consistent with crash data citing lack of vision as the main cause of side-impact crashes. The change also encourages operators to use a CPMS without the need to sacrifice productivity.

55. The use of CPMS is considered a more useful technology than side under-run protection, as CPMS can be used to avoid an accident from occurring, and has additional benefits such as reducing the incidence of minor collisions when parking. The viability of mandating side under-run protection systems, as an initiative to reduce the severity of crashes, will be investigated as part of the third action plan of the Safer Journeys Strategy. As under-run protection systems do not add to a vehicle's width, they do not need to be specifically provided for in the VDAM Rule.

B2.4: Mirror width

56. This change redefines the current exception for collapsible mirrors (which allows an additional 0.24m either side of the vehicle under the 2.50m width limit) to ensure that mirrors do not extend beyond an overall 2.98m maximum. Without this re-definition, mirrors would otherwise be allowed to extend to a total of 3.03m due to the increased width limit to 2.55m, which would increase the risk of side-swipes.

B2.5: Aerodynamic tabs

57. This change provides an exception to allow up to 25mm on each side of a vehicle to attach aerodynamic tabs. These tabs are currently being used under exemptions as a trial, which is showing they improve fuel efficiency and vehicle stability.

B2.6: Ground clearance

58. This change allows vehicles to temporarily raise their height above the height limit to clear a ground obstruction, and enables technology that is currently available, to be used. The change would create a positive impact due to reduced stoppages and damage to infrastructure. While increased height can affect vehicle stability, this is expected to be minimal as the height increase is temporary and is automatically retracted when the vehicle gathers speed (i.e. about 20 kilometres per hour).

B3: Overdimension loads

59. The VDAM Rule recognises many overdimension vehicles have a legitimate need to access the road network. Examples include wind-turbine masts, power transformers, and boats and buildings being relocated. The VDAM Rule takes a graduated approach to imposed conditions, and as vehicles and loads become larger, conditions become more stringent to maintain safety and protect infrastructure.

60. Despite the potential risk that overdimension vehicles and loads pose to other road users, the number of crashes where overdimension is a factor is very small. NZTA data for 2010-14 shows one fatal crash and seven minor injuries resulting from such crashes. Two fatal crashes involving overdimension loads were reported in 2015.

61. Proposed changes (also see Appendix 1) are:

- designed to improve the management of overdimension loads, for safety and efficiency outcomes
- respond to a coroner's report on a fatal crash involving a car and a house being relocated[18]
- not restrictive across all loads, but are designed to reflect the circumstances of the specific load being moved, and route being taken
- where necessary, allow controls such as limitations on maximum width, speed limits, piloting or other controls to be established as part of a permit.

B3.1: Establish in the VDAM Rule obligations on the NZTA

62. When issuing a permit, the NZTA to give due consideration to the safety of the vehicle and road users. This is modelled on similar provisions currently applying to overweight permits.

B3.2: Having regard to traffic offending history in considering a permit application

63. The NZTA would be able to have regard to the traffic offending history of the person applying for a permit, including breaches of condition of any permit issued under the VDAM Rule. This is currently done when assessing permits for HPMVs.

B3.3: Create critical conditions for overdimension permits

64. Breaching a critical condition would create a liability for a greater fine and a standard breach of permit condition, i.e. $2,000 compared to $350. These changes are also modelled on the current overweight permit regime. Critical conditions proposed are: the load or vehicle not being that described on the permit; the vehicle not being on the route described on the permit; and the operator not being named on the permit.

[18] CSU-2013-CCH-000668 Findings of Coroner CJ Devonport, Coroners Court Timaru, 30 October 2015

B3.4: Make explicit in the VDAM Rule matters that may be included as conditions

65. While the ability to set out width, speed, the number of pilots and similar conditions in permits can be done now under more generally described provisions, the intention is to replicate existing overweight permit provisions which make this ability clear.

B3.5: Verification by applicants for Category 4 loads

66. Applicants would be required to verify the intended route has been assessed, and the load can be safely managed within piloting requirements set out in the VDAM Rule, or whether mitigation is necessary. The NZTA's current guidance to undertake a pre-movement assessment of the proposed route would become a requirement. For loads wider than 11.0m, the NZTA currently requires an engineering assessment to be undertaken of the route and this would now be included in the 2016 Rule.

B3.6: Clarify the responsibilities of operators and pilots

67. This change would eliminate uncertainty as to who is responsible for the management of overdimension loads, especially for the roles of pilot, driver and operator. The 2016 Rule would require the permit-holder (operator) to be responsible for ensuring conditions of a permit are met, and the lead pilot to be responsible for the safe management of the overdimension load from origin to destination, and in ensuring the vehicle is no wider than allowed for in the permit.

B4: Permitting

B4.1: Bulk permits for HPMV

68. This change allows identified prime movers (towing vehicles) to be 'mixed and matched' with a set of pro-forma trailer combination designs published by NZTA. Other combinations would still require individual permitting. RCAs that have not delegated HPMV permitting to NZTA[19] would decide whether to grant bulk permits for their areas.

69. This change allows bulk permitting for each prime mover within a fleet, reducing compliance costs.

B4.2: Crane booms

70. This change allows crane booms that can be disassembled to be stacked to 3.1m wide and 4.5m high (i.e. within Category 1 overdimension parameters). The requirement for piloting and other conditions relevant to vehicle type remain.

[19] Buller, Clutha, Far North, Grey, Invercargill, Mackenzie, Southland, and Westland.

71. This change provides the following benefits:

- enables crane booms, currently required to be transported on multiple vehicles due to their size, to be carried in less trips – a possible 75 percent reduction in trips required. For example, a 32.0m-long boom that breaks into four 8.0m lengths could be transported in a single trip, rather than the current four trips

- improved safety outcomes, with the reduction in crash risk assessed at 60 percent.[20]

B4.3: Loads deemed indivisible

72. *Loads deemed indivisible listed in the permit manual*: This change would formalise in the VDAM Rule the loads deemed indivisible (e.g. transformer oil, slurry sealing but not including building removals), that are currently listed in the permit manual. The change distinguishes between actual loads to be considered indivisible and incidental items associated with the load. Currently, the informal practice of listing items does not provide legal certainty for operators if challenged, so they could be in breach of the VDAM Rule.

73. *Ancillary items*: This change allows ancillary items (e.g. counter-weights for cranes, load dividers) to be carried with indivisible loads, without specifying the number or type of item. Ancillary items should, where possible, be carried in a way as to meet the dimensions limits in the VDAM Rule. This change would reduce the number of trips required and can be expected to yield productivity and safety gains. Loads under these changes would still require an overweight permit, as at present.

B4.4: Heavy vehicle temporary exemptions from permitting

74. This change allows HPMV over-length vehicles (up to 23.0m long) to temporarily operate unladen without a permit when moving between the manufacturer and customer and/or vehicle compliance certifier pending registration and permitting. It also allows another heavy vehicle to be temporarily used to move a heavy vehicle (including any trailers) without an overdimension permit where a heavy vehicle has broken down or crashed. This is because requiring a permit would unnecessarily delay removal of the broken down or crashed heavy vehicle.

B5: Re-write of the Rule

75. The extent of these changes provides an opportunity to re-write the VDAM Rule, providing a more coherent structure to its various components. For example, the common elements that apply to overweight permits are currently repeated in three places. The re-write will: incorporate all proposed changes contained in this paper; provide clarity by removing duplications and specifying responsibilities and processes, consistent with the current Rule; and make the 2016 Rule easier to read and interpret.

[20] International Road Assessment Programme (iRAP) Road Attribute Risk factors

B6: Consequential amendments to other regulations

76. In addition, minor amendments will be required for some regulations. These are:

- Land Transport (Offences and Penalties) Regulations 1999 – to reflect changes to mass weighing tolerance limits, creation of critical conditions for overdimension permits and provide for consequential amendments due to the re-numbering of relevant sections of the 2016 Rule.

- Transfer of permit fees from the Heavy Motor Vehicle Regulations 1974 (HMV Regulations) to the Land Transport (Certification and Other Fees) Regulations 2014 – so that fees are contained in one Rule, and to assist in the eventual planned repeal of the HMV Regulations.

Part C: Factors used in considering options for change

77. Officials considered five factors when assessing the options for amending the VDAM Rule. Additional details of these assessments are contained in the Regulatory Impact Statement that accompanies this paper:

C1: Contribution of Government initiatives to an improved road transport environment

C2: Impacts on productivity

C3: Impacts on road user safety

C4: Impacts on infrastructure and network costs

C5: Impacts on road user behaviour and compliance

C1: Contribution of Government initiatives

Infrastructure initiatives

78. Roads of National Significance (RoNS) programme is an $11 billion investment in significant improvements to the road network, including hardening roads and strengthening bridges, so that the most important parts of the national network are able to cope with more intensive freight and passenger movements.

79. Infrastructure improvements have also followed the introduction of the HPMV policy in 2010 and 50MAX policy in 2013. This involves an ongoing process of route assessment and strengthening outside the RoNS corridors, creating a high productivity network spanning most of the country. The ‘full’ HPMV network, capable of taking the heaviest HPMV loads, currently extends for more than 5,300km of state highway and local roads.

80. The One Network Road Classification Programme (ONRC) is a new framework that categorises roads based on their functions and purpose, as part of an integrated national road network. This assists local government and NZTA to plan, invest in, maintain and operate the road network in a strategic, consistent, and affordable way.

Road safety behaviour initiatives

81. The Safer Journeys Strategy 2010-2020 is contributing to positive longer-term trends in crash rates and severity. The Strategy's Third Action Plan, released in 2016, includes investigating the mandating of under-run protection and Electronic Stability Control for heavy vehicles, and earlier adoption of international safety standards.[21]

Road User Charges Act 2012

82. The Road User Charges Act 2012 changed the basis on which RUC is assessed, reducing opportunities for evasion. It also strengthened powers of the RUC collector to seek payment of unpaid RUC. This power has been reinforced in the Courts and sends strong signals to operators about the credibility of the enforcement regime.

C2: Productivity

Carry more in fewer trips

83. Increasing dimensions and mass limits would improve productivity, for example:

- The new width enables refrigerated trailers to carry side-by-side palletised loads instead of current 'parquet'-style patterns. In longer trailers, this allows additional pallets (e.g. in a 15.2m-long trailer, increased capacity from 27 to 30 pallets).

- The increase in gross mass to 46,000kg means total kilometres travelled by the heaviest tankers would decrease, carbon emissions would reduce, and cost savings would increase. A bulk liquids operator has stated an increase to 45,000kg would reduce tanker loads by 100 per day, the equivalent of 11,170km (or 1.5 to 2.0 million kilometres per annum); reduce carbon emissions by a significant factor; and generate approximately $5.3 million in annual cost savings.

Controls on overloading

84. The 2014 Weigh-in-Motion (WiM) data for the state highway network shows that 11.1 percent of vehicles are loading above legal limits. For instance:

- 21.2 percent of all truck and trailer combinations were recorded at weights above the 44,000kg limit, including those overloaded or under permits and exemptions

- the average weight of truck and trailer combinations over 44,000kg is 47,700kg, including those overloaded, and those under permits or exemptions.

85. Risks associated with increasing mass limits would be mitigated in part by reducing the weighing tolerance limit from 1,500kg to 500kg[22], and reducing the off-loading limit as a result of proposed changes to the LTA Amendment Bill 2016.[23] These changes would reduce the existing commercial disadvantage for compliant operators.

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[21] http://www.saferjourneys.govt.nz/action-plans/2016-2020-action-plan/

[22] For vehicles 33,000kg and heavier. Weighing tolerance for vehicles between 11,000 kg and 33,000kg will reduce from 1,000kg to 500kg.

[23] Proposed reduction in the off-loading limit from 10 percent to 2,000kg (for vehicles over 20,000kg) under the Land Transport Act 1998.

Productivity assessment

86. Proposed changes to the VDAM Rule were assessed in a cost-benefit analysis in 2015[24] as having an expected net present value of $634 million over 30 years. Following consultation, some proposals have been removed and others amended.

87. A detailed revision of the cost-benefit assessment has not been undertaken for the final 2016 Rule changes. However, net present value is expected to be comparable to the initial assessment, as benefits of proposed changes not proceeding (e.g. removing the 50MAX permitting requirement), would be balanced by increased benefits from revised proposals (e.g. increasing gross mass from 45,000kg to 46,000kg).

88. Many of the assumptions used in estimating the initial proposals were used in estimating the 2010 expected net present value of the HPMV changes. The gains from HPMV changes are proving to be within range of estimates, which increases confidence in the expected net present value of the 2016 Rule changes.

C3: Road user safety

89. The impact of the proposed changes on road user safety are difficult to assess, as they are incrementally small and cannot be isolated from other factors that affect crash rates and severity. However:

- Small increases in dimensions and mass limits would not produce noticeably bigger trucks or buses nor would they result in a significantly higher crash risk.
- The 2016 Rule changes are expected to contribute to improved safety outcomes because operators are able to:
    - carry more with fewer trips, reducing exposure to heavy vehicles
    - move to modern vehicles with improved safety specifications.
- A more detailed analysis of the relationships between the proposed changes, and road safety outcomes, are provided in Annex 3 of the accompanying RIS.

90. The 2016 Rule changes encourage the uptake of the latest trucks and buses from Europe that have modern safety specifications. Europe is a potential major supplier of heavy vehicles, but such vehicles are typically built to 2.55m width, which cannot be used in New Zealand under the existing VDAM Rule.

91. Other safety performance initiatives relevant to the 2016 Rule include:

- encouraging the use of close proximity monitoring systems (CPMS)
- operators would still need to comply with current VDAM Rule safety performance standards for braking, acceleration, slope start-ability, load securing, rollover, and stability. These standards are consistent with international approaches.

[24] By independent advisers Castalia (November 2015).

- more effective planning in the safer movement of overdimension loads.

Crash risk and severity

92. There is limited evidence that small increases in dimensions and mass limits increase crash rates and severity. Other factors, such as operating environment, have a greater influence on safety. For example, reduced exposure through carrying more with fewer trips offsets some of the potential increased risks.

93. In terms of crash risk for the new height limit, MoT analysed a sample of 84 overhead crashes over the 2005-2015 period[25] to examine the relationship between vehicle height and crash occurrence. Although most crash reports do not include the height of the vehicle involved because the load/vehicle is often badly damaged in the crash, the main findings were:

    - The most common cause of overhead strikes was excavator booms/ truck-mounted cranes not being folded back.

    - A moderate proportion (6 out of 16) of overhead strikes occur at structures with clearances less than the current vehicle height limit (i.e. less than 4.25m).

    - For clearances higher than the vehicle height limit, crashes usually involved overdimension loads higher than 4.45m (range from 4.45m to 5.20m).

94. Overall, it is expected that the proposed changes would have a neutral, or small positive effect on road safety for all road users.

C4: Infrastructure

95. The changes are not expected to cause significant additional wear or damage to the road network, and for weaker parts of the network, the permitting system would continue to be used to manage the use of the heaviest vehicles. At worst, there would only be a marginal increase in the rate at which the road pavement infrastructure is consumed because use is largely offset by:

    - maintaining the permit system to manage heavier vehicles loads from causing excessive damage on weaker parts of the road network

    - operators being able to carry more with fewer trips.

Maintenance costs

96. The current road funding system covers any increased road maintenance costs, as it responds to the rate of consumption of the network through recovery from road users.

[25] Using NZTA Crash Analysis System (CAS) data.

97. Investment planning reflects predicted future use. State highway and local road maintenance funding and prioritisation are dealt with under the Government Policy Statement on Land Transport (GPS), which sets the Government's investment strategy over the next 10 years, including demand for maintenance of the road network.

State highway network infrastructure

98. Increases in general access mass limits are modest, and fit within current safety parameters for bridge structures. Access to heavier mass limits would only be available by permit, where appropriate limits and routes can be specified.

99. A 2013 study[26] found HPMVs were most likely to use highly trafficked stronger pavements (i.e. state highways), which are less susceptible to heavy loading. This assessment can be applied to the proposed changes, as increased limits mainly relate to heavier combinations, which generally travel on the same routes.

100. Six structures have been identified on the state highway network as under or on the new 4.3m height limit. These would require minor mitigation work, which is estimated to cost around $1 million. This would be recovered through the RUC system, applied to state highway maintenance.

Local road network infrastructure

101. There is limited data on the overall condition of the local road network. NZTA is working with local RCAs as a member of the Road Efficiency Group (REG), a collaborative initiative of RCAs established in 2012.

102. Any increased cost in road maintenance for local road routes would be reflected through the RUC system (designed so that heavy vehicles pay the full cost of the wear and damage they cause), local rates, and vehicle licensing.

103. In relation to mass increases, effects on local bridges are expected to be within safety parameters. For the increased height limit, there are many structures that are lower than the current 4.275m total limit, or between the current limit and the proposed 4.3m limit. All of these structures should currently be posted with warning signs, so no new action is required of RCAs in consequence of these changes.

C5: Compliance

104. Proposed changes improve regulatory efficiency and reduce compliance costs:

- Livestock vehicles would no longer be required to obtain an over-height exemption to install add-ons that improve health and safety and animal welfare.

[26] *Analysis of Pavement Impacts of HPMVs 2013* commissioned by NZTA.

- More than 3,000 exemptions have been issued over the past three years for increased mass to 45,000kg. Under the new limits, these would not be required, reducing costs (indicative cost for an exemption application is $368 (inc. GST).[27]

- Allowing identified prime movers (towing vehicles) to be mixed and matched with a set of pro-forma trailer combination designs published by NZTA.

Part D: Consultation and Other Matters

Consultation

Departmental

105. The Treasury, Ministry of Justice, Ministry of Business, Innovation and Employment, Department of Internal Affairs, NZ Defence Force, Ministry of Defence, Maritime New Zealand and the New Zealand Police have been consulted and their feedback incorporated into the preparation of this paper.

106. The Department of the Prime Minister and Cabinet has been informed.

Sector

107. The Ministry of Transport and NZTA have undertaken preliminary discussions with industry/sector organisations and a special pre-discussion document workshop.

108. In December 2015, the Associate Minister of Transport released a discussion document, *Review of the Vehicle Dimensions and Mass (VDAM) Rule*, for public consultation from 9 December 2015 to 17 February 2016. During the consultation period, seven public workshops were held and 198 submissions received. Organisations to make submissions included the Automobile Association, Bus and Coach Association NZ, Campaign for Better Transport Inc, Crane Association of New Zealand, Cycling Action Network, Friends of the Earth, Heavy Haulage Association, Living Streets Aotearoa, Motor Industry Association, and Road Transport Forum.

109. Submissions were received from the following:

Submitter type	Number
Individuals	53
Individuals (form submissions)	38
Road transport companies	28
Local government (including RCAs)	24
Transport sector advocacy groups	24
Transport-related businesses	10
Community advocacy groups	8
Miscellaneous	8
Bus sector	5

[27] Permit fees can differ depending on complexity, uniqueness and whether assessment has largely been done in previous applications.

110. The issues raised by submitters have been assessed and reflected in the final changes outlined above. The main themes were:

- General support, particularly from truck and bus manufacturers and distributers for increasing mass limits to improve productivity and to meet international standards.
- In terms of safety, some individual submitters and RCAs argued that heavier, wider trucks would result in a reduction in safety and increased risk to particular road users such as pedestrians and cyclists.
- In terms of increased road damage, many RCAs argued allowing heavier trucks would cause more damage to pavements and that a new cost recovery mechanism would be required to maintain the local road network.
- In relation to the reduction of the 1,500kg weighing tolerance, some submitters (mostly from the road transport sector) argued 45,500kg is now the 'defacto' weight limit and removing the tolerance exposes the industry to increased risk and decreased productivity.

Financial implications

111. These proposals have no direct financial implications for the Crown.

Monitoring, Evaluation and Review

112. The HPMV policy has had two evaluations since inception with a third being tendered for completion in late 2016. The RUC reforms have also been evaluated, with the third and final evaluation due in July 2016. The findings from these two streams would provide a baseline for subsequent evaluations of the VDAM reforms. The Ministry of Transport proposes a further three evaluations over a five year period to monitor the implementation and impact of the VDAM reform, and to check on the system's ability to identify and respond to emerging risks.

113. The evaluations would supplement and build on usual monitoring practices, which include consideration of, inter alia:

- annual WiM data on truck weights
- data on all road crashes involving injury
- the results of Police compliance operations
- RUC and vehicle licensing data.

114. For RCAs, work through the Road Efficiency Group would provide better data on the road network. Any significant change in demand for maintenance of the local road network can be taken into account in investment planning by being elevated as a system level concern under the GPS.

Human rights, gender and disability implications

115. The proposals are not inconsistent with the New Zealand Bill of Rights Act 1990 and the Human Rights Act 1993. There are no gender or disability implications.

Legislative Implications

116. A new Land Transport Rule: Vehicle Dimensions and Mass 2016 is to be drafted to implement the changes proposed in this paper, and to replace the current Land Transport Rule: Vehicle Dimensions and Mass 2002. Amendments are also required to the Land Transport (Offences and Penalties) Regulations 1999, Heavy Motor Vehicle Regulations 1974, and Land Transport (Certification and Other Fees) Regulations 2014.

Regulatory Impact Analysis

117. The Regulatory Impact Analysis (RIA) requirements apply to the changes in this paper. A Regulatory Impact Statement (RIS) has been prepared and is provided with this Cabinet paper.

118. The Ministry of Transport's Regulatory Impact internal review panel has reviewed the RIS and considers that the information and analysis summarised in the RIS meets the quality assurance criteria.

Publicity

119. Decisions about the changes would be notified on NZTA's website and in industry publications as part of NZTA's communications programme.

120. This Cabinet paper and attached RIS will be made publicly available following Cabinet's decision on the proposal.

Implementation and timing

121. The Land Transport Rule: Vehicle Dimensions and Mass Amendment (No.2) 2016 Rule is to be in place with effect from 1 November 2016.

Recommendations

122. It is recommended that the Committee:

1) **Note** my intention to release a public consultation (yellow draft) of the Land Transport Rule: Vehicle Dimensions and Mass 2016, to replace the Land Transport Rule: Vehicle Dimensions and Mass 2002.

2) **Note** that subject to any minor changes required as a result of the consultation, it is my intention to sign the Rule to come into force on 1 November 2016.

3) **Note** that, if any substantial changes to the yellow draft are required, it is my intention to provide a revised draft Rule to Cabinet prior to signing.

4) **Invite** the Associate Minister of Transport to issue instructions to the Parliamentary Counsel Office to draft amendments to the Land Transport (Offences and Penalties) Regulations 1999 to:

   a) standardise all weighing tolerances at 500kgs, except for the tolerance on steer axles which will be unaltered; and
   b) make breaches of critical conditions for over-dimension permits subject to the same penalty as the breaches of critical conditions for over-weight permits referred to in section 4B(a) of the regulations.

5) **Invite** the Associate Minister of Transport to issue instructions to the Parliamentary Counsel Office to draft minor and consequential amendments to the Land Transport (Offences and Penalties) Regulations 1999, Heavy Motor Vehicle Regulations 1974 and Land Transport (Certification and Other Fees) Regulations 2014, as detailed in this paper.

6) **Note** that the Associate Minister of Transport intends to publish this Cabinet paper and related cabinet decisions online, subject to consideration of any deletions that would be justified if the information had been requested under the Official Information Act 1982.

Hon Craig Foss

Associate Minister of Transport

Dated: _____

Appendix 1: Further minor changes

Other proposed changes to the VDAM Rule relating to overdimension loads

Area	Proposal
Travel times	• Apply travel restrictions when ANZAC Day falls on a Saturday. • Allow dedicated fertiliser spreaders to be exempt from the time restrictions in Clause 6.6(11) of the VDAM Rule to be certified they meet a swept path test. This is on the basis such vehicles would easily meet the swept path test.
Signs and warning devices	• Remove the option for the use of flags to mark edges in Category 4 loads but leave in place for Category 1 loads (the flag reference in Category 4 appears to have been a drafting mistake. • All tractors between 2.5m and 3.1m to be required to use a warning light or hazard panels to signify width (a flashing light can provide better indication of low speed than panels). • Provide pilots can use sound warning devices to warn on-coming traffic. • Provide for the Transport Agency to be able to establish alternative warning signs and layouts for hazard panels. This to be done by notice on the Transport Agency's website (a similar provision currently exists for alternative hazard panels in the VDAM Rule). • Delete the requirement for sign/panels fixed to solid objects or carried on top of vehicles to be able to be deformed or break easily when struck (referred to in the VDAM Rule as 'frangible') – any signs extending beyond solid edges still required to be frangible. • Define, where, appropriate lighting by effect rather than watts.
Vehicles travelling together	• Allow 2 or more (the VDAM Rule currently only allows 2) specialised overdimension vehicles to travel together subject to piloting requirements.
Pilot vehicle wheel diameter	• Remove the requirement for a maximum vehicle rim diameter size for a Class 2 pilot vehicle leading an overdimension vehicle (currently specified at 17 inches).
Vehicles yet certified	• Allow overlength HPMVs up to 23m long to temporarily operate unladen without a permit when moving between the manufacturer and customer and/or vehicle compliance assessment pending registration and permitting.
Vehicles used as replacements	• Allow another heavy vehicle to be temporarily used to move a heavy vehicle (including any trailers) without an overdimension permit where a heavy vehicle has broken down or crashed. Requiring a permit would unnecessarily delay removal of the broken down or crashed heavy vehicle.
Use of overdimension vehicles in emergencies	• Allow overdimension and overweight vehicles to be used without permit or outside the conditions of an existing permit in defined emergencies at the direction of a road controlling authority, Police or civil defence controller, whether or not a state of emergency is declared.

Changes to travel zones

The following proposed changes to zone descriptions and Auckland motorway restrictions reflect changes in road layouts and road use patterns since the VDAM Rule was established.

Schedule 6

Zone 1 Definition

Establish a western boundary for Zone 1, and add Kumeu to the north/western Auckland boundary for Category 4 loads being in Zone 1. Beyond that Zone 3 should apply.

Zone 1: Wellington

Amended the zone boundary between Zone 1 and 3 to read “East to the Southern Featherston Boundary (twin bridges at the bottom of the Rimutaka Hill)”.

Zone 1: Christchurch

The new Zone 1 boundary for Christchurch be described as: “North of Rolleston”. (The Zone 3 area for the South Island, accordingly, would no longer be described as “Templeton and south of Templeton, but rather: “Rolleston and south of Rolleston”.)

South – Ashburton – SH1 Fairfield Road to Tinwald

West of Christchurch – Extend to SH73 West Milton – from Dawsons Road

North of Christchurch SH1 – extend to Salt Water Creek – from Waimakariri Bridge

East of Christchurch – SH75 – extend to Leadleys Bridge

Zone 2 Travel Zones: Schedule 6

The boundary for Zone 2 to 3 change to be at SH1, Taupo (Eastern Taupo Arterial).

Amend the current Zone 2 travel zone description, to read Opotiki and west of Opotiki” instead of “Opotiki and North of Opotiki.

Schedule 7: Travel on Auckland Motorways

1. Correct Name

Change the name of Buckley Ave to Squadron Drive.

2. Auckland Western Motorway (SH18)

Loads that exceed 3.1m in width or 4.25m in height be permitted to travel on SH 18 between the SH16 and SH18 interchange and the Old Albany Highway.

3. SH1: Northern Toll Road

That the section of the Auckland Northern Motorway on SH1 between the Silverdale interchange and the end of the Northern Motorway be permitted for use by overdimension loads.

When the Puhoi to Warworth motorway is completed then travel should be permitted “to the end of the Northern Motorway”.

Appendix 2: Proposals not proceeding

The following proposals were consulted on as part of the discussion document, or otherwise considered, but are not proceeding as part of the current VDAM review process.

Side under-run protection systems

1. A Side Under-run Protection System (SUPS) is a panel or 'skirt' added to the side of a heavy vehicle that is designed to prevent cyclists or people being dragged under the vehicle. MoT's review of international literature on SUPS provided conflicting conclusions as to their effectiveness in protecting cyclists. The expected benefits are small due to the relatively small number of fatal cyclist crashes involving heavy vehicles (especially from side impacts).

2. Close Proximity Monitoring Systems (CPMS) are considered to offer greater benefits than SUPS. CPMS typically use cameras on all sides of a vehicle to provide a 360-degree image of a vehicle's surrounds to the driver. This initiative addresses crash data that cites lack of vision as the main cause of side-impact crashes. In addition, the intention of CPMS is to avoid a crash from occurring, rather than diminishing the effect of a crash, as is the case with SUPS.

3. The viability of mandating SUPS, as an initiative to reduce the severity of crashes, will continue to be investigated as part of the third action plan of the Safer Journeys Strategy.

50MAX permits

4. Under the VDAM Rule, 50MAX vehicles (as a sub-class of HPMVs) require permits. These permits allow 50MAX vehicles to travel on most of the road network, except for a small number of local authority areas and where other restrictions are imposed (e.g. for weaker bridges). The vehicle class is relatively new (being introduced in 2013).

5. The permitting requirement for 50MAX is not being removed, as was proposed in the discussion document. it will be retained for the time being because:

    - A key part of its acceptability (especially for RCAs) is having the confidence that these vehicles are used responsibly and stay within the 50MAX network. The permit process is important to maintaining this confidence as it ensures NZTA has contact with operators and the possibility of having a permit revoked or not renewed acts to encourage operator compliance.

    - In August 2015, NZTA added an operator check to the permitting process. This gives NZTA oversight of the safety record of 50MAX operators to monitor whether the vehicles are used as intended. The ability to decline permits or issue shorter term permits, where concerns about an operator's safety are considered serious, acts as an incentive for operator compliance.

Placement of load pilots

6. Allowing pilot vehicles to travel in the opposing lane, if necessary, to warn oncoming traffic. This change was considered too dangerous and requires a higher level of training and expertise than is currently required for Class 2 pilots.

Maximum speed for house relocations

7. No special speed limit is being imposed for houses being moved, although speeds may be imposed as a condition of a permit. The nature of moving large, especially wide loads is that they encounter a range of road widths, traffic densities and other factors, which are better addressed under the permitting system as it can take account of the variability in circumstances. For example, in some circumstances limiting speed, e.g. on motorways, may increase other safety risks from frustrated following drivers making poor overtaking decisions as well as creating additional exposure time for the vehicle on the road.

Performance-based standards

8. As part of the review, work has been undertaken on the application of performance-based standards to the operation of the VDAM Rule. This approach would seek to establish a set of performance parameters vehicles must meet, but would not specify how they should be met. There are a number of performance-based standards[28] used in the current VDAM Rule, but these are exceptions to the more detailed approach.

9. There are a range of technical issues that need to be worked through before a performance-based approach could form a major part of the regulatory approach to the access and use of the road network. It is also not clear whether suitable standards could, in practice, be established for key limits such as mass, width, height and length. Accordingly, options for a standards-based approach to the VDAM Rule was not taken further in this review.

[28] These are the Static Roll Threshold (a measure of the stability of a vehicle) and the swept path requirement (a measure of how much room a turning vehicle takes outside the lane it is travelling in).

Appendix 3: Schedule 2 mass limit changes

Part A - General Mass Limits	kg
Table 1 – Maximum mass on individual axles	
Type of axle 1. Single standard tyres (a) in a twin-steer axle set, or in a tandem axle set with a twin- or single large-tyred axle	~~5,400~~ 5,500
(b) in any other axle set	6,000
2. Single large-tyred: (a) in a twin-steer axle or quad-axle set	~~5,400~~ 5,500
~~(b) in a quad-axle set~~	~~5,500~~
(b) ~~(c)~~ in a tandem axle set with two single large-tyred axles or in a tandem axle set with a single standard tyred axle or in a triaxle set	6,600
(c) ~~(d)~~ in any other axle set	7,200
3. Single mega-tyred: (a) in a twin-steer axle set (b) in a single-steer axle set (c) in any other axle set	 5,500 7,200 7,600
4 ~~3~~. Twin-tyred: (a) in a quad-axle set	 ~~5,500~~ 6,000
(b) in a tri-axle set	~~6,600~~ 7,000
(c) in any other axle set	8,200
5 ~~4~~. Oscillating axle, in any axle set	9,500
Table 2 – Maximum sum of axle mass on two axles in a tandem axle set	
1. Two single standard tyres ~~(a) in a twin-steer set~~	11,000 ~~10,800~~
~~(b) not in a twin-steer set~~	~~11,000~~
2. Two single large-tyred axles: (a) in a twin-steer set	 ~~10,800~~ 11,000
(b) not in a twin-steer set	13,000
3. Two single mega-tyred axles: (d) in a twin-steer axle set	11,000
(e) not in a twin-steer axle set	14,000
4 ~~3~~. Two twin-tyred axles: (a) spaced less than 1.3m from the first axle to the last axle	 14,500
(b) spaced 1.3m or more but less than 1.8m from the first axle to the last axle	15,000
(c) spaced 1.8m or more from the first axle to the last axle	15,500
5 ~~4~~. Twin-tyred axle: (a) for passenger service vehicles, with a single standard-tyred axle, large-tyred axle, or single mega-tyred axle and a load share between 60/40 and 55/45 ~~load share~~	 ~~13,600~~ 14,500
(b) for other vehicles, with a single standard-tyred axle, single large-tyred axle, or single mega-tyred axle ~~and 55/45 load share~~	~~14,500~~ 13,600
6 ~~5~~. Single standard-tyred axle with an oscillating axle	13,000
7 ~~6~~. Single standard-tyred axle with a single large-tyred axle or a single mega-tyred ~~twin-tyred~~ axle	12,000
8 ~~7~~. Two oscillating axles	15,000

Table 3 – Maximum sum of axle mass in a tri-axle set	
Three oscillating axles, three twin-tyred axles, ~~or~~ three single large-tyred axles, or three single mega-tyred axles:	
(a) spaced 2.5m or more from the first axle to the last axle	~~18,000~~ 18,000
(b) spaced 2.4m or more and less than 2.5m from the first axle to the last axle	17,500
(c) spaced 2m or more and less than 2.4m from the first axle to the last axle	~~15,500~~ 16,000
Table 4 – Maximum sum of axle mass in a quad-axle set	
1. ~~Four~~ Twin-tyred axles, ~~or four~~ single large-tyred axles, single mega-tyred axles, or oscillating axles, with at least one steering axle	20,000
Table 5 – Maximum sum of mass on any two or more axles that together do not constitute a single tandem axle set, single tri-axle set or single quad-axle set, where the distance from the centre of the first axle to the centre of the last axle is 1m or more but less than 1.8m (including maximum gross mass)	
1. Two single standard-tyred axles	~~10,800~~ 11,000
2. Two single large-tyred axles	12,000
3. Two single mega-tyred axles	13,000
~~3~~4. A single standard-tyred axle with a single large-tyred axle, single mega-tyred axle, or a twin-tyred axle	12,000
~~4~~5. Any other two or more axles	14,500
Table 6 – Maximum sum of mass on any two or more axles that together do not constitute a single tandem axle set, single tri-axle set or single quad-axle set, where the distance from the centre of the first axle to the centre of the last axle is 1.8 m or more (including maximum gross mass)	
Distance from the centre of the first axle to the centre of the last axle	
1.8 m but less than 2.5 m	15,500
2.5 m but less than 3.0 m	17,500
3.0 m but less than 3.3 m	19,000
3.3 m but less than 3.6 m	20,000
3.6 m but less than 4.0 m	21,000
4.0 m but less than 4.4 m	22,000
4.4 m but less than 4.7 m	23,000
4.7 m but less than 5.1 m	24,000
5.1 m but less than 5.4 m	25,000
5.4 m but less than 5.8 m	26,000
5.8 m but less than 6.4 m	27,000
6.4 m but less than 7.0 m	28,000
7.0 m but less than 7.6 m	29,000
7.6 m but less than 8.2 m	30,000
8.2 m but less than 8.8 m	31,000
8.8 m but less than 9.4 m	32,000
9.4 m but less than 10.0 m	33,000
10.0 m but less than 10.8 m	34,000
10.8 m but less than 11.6 m	35,000
11.6 m but less than 12.0 m	36,000
12.0 m but less than 12.5 m	37,000
12.5 m but less than 13.2 m	38,000
13.2 m but less than 14.0 m	39,000
14.0 m but less than 14.8 m	40,000
14.8 m but less than 15.2 m	41,000
15.2 m but less than 15.6 m	42,000
15.6 m but less than 16.0 m	43,000

16.0 m or more	44,000
16.8 m or more, and a minimum 7 axles	45,000
17.4 m or more, and a minimum 8 axles	46,000

Part B - Mass Limits for High-Productivity Motor Vehicles	kg
Table 1 – Maximum mass on individual axles	
Type of axle	
1. Single standard tyres	
a) in a twin-steer axle set, or in a tandem axle set with a twin- or single large-tyred axle	~~5,400~~ 5,500
b) in any other axle set	6,000
2. Single large-tyred:	
(a) in a twin-steer axle set	~~5,400~~ 5,500
(b) in a quad-axle set	6,500
(c) in a tandem axle set with two single large-tyred axles or in a tandem axle set with a single standard-tyred axle or in a triaxle set	6,600
(d) in any other axle set	7,200
3. Single mega-tyred:	
(a) in a twin-steer axle set	5,500
(b) in a single-steer axle set	7,200
(c) in any other axle set	7,600
4 ~~3~~. Twin-tyred:	
(a) in a quad-axle set	6,000
(b) in a tri-axle set	7,000
(c) in any other axle set	8,800
5 ~~4~~. Oscillating axle, in any axle set	9,500
Table 2 – Maximum sum of axle mass on two axles in a tandem axle set	
1. Two single standard tyres	11,000
~~(a) in a twin-steer set~~	~~10,800~~
~~(b) not in a twin-steer set~~	~~11,000~~
2. Two single large-tyred axles:	
(a) in a twin-steer set	~~10,800~~ 11,000
(b) not in a twin-steer set	13,000
3. Two single mega-tyred axles:	
(d) in a twin-steer axle set	11,000
(e) not in a twin-steer axle set	14,000
4 ~~3~~. Two twin-tyred axles:	
(a) spaced less than 1.3m from the first axle to the last axle	15,000
(b) spaced 1.3m or more from the first axle to the last axle	16,000
5 ~~4~~. Twin-tyred axle:	
(a) with a single large-tyred axle and 60/40 load share	13,600
(b) with a single large-tyred axle and 55/45 load share	14,500
6 ~~5~~. Single standard-tyred axle with an oscillating axle	13,000
7 ~~6~~. Single standard-tyred axle with a single large-tyred axle	12,000
8 ~~7~~. Single standard-tyred axle with a twin-tyred axle	13,300

8 ~~7~~. Two oscillating axles	15,000
Table 3 – Maximum sum of axle mass in a tri-axle set	
Three oscillating axles, three twin-tyred axles, ~~or~~ three single large-tyred axles, or three single mega-tyred axles:	
(a) spaced 2.0m or more but less than 2.4m from the first axle to the last axle	16,000
(b) spaced 2.4m or more but less than 2.5m from the first axle to the last axle	18,000
(c) spaced 2.5m or more from the first axle to the last axle	19,000
Table 4 – Maximum sum of axle mass in a quad-axle set	
~~Quad-axle set with~~ Twin-tyred axles, ~~or~~ single large-tyred axles, single mega-tyred axles, or oscillating axles, with at least one steering axle	22,000
Table 5 – Maximum sum of mass on any two or more axles that together do not constitute a single tandem axle set, single tri-axle set or single quad-axle set, where distance from centre of first axle to the centre of the last axle is 1.0m or more but less than 1.8m (including maximum gross mass)	
1. Two single standard-tyred axles	~~10,800~~ 11,000
2. Two single large-tyred axles	12,000
3. Two single mega-tyred axles	13,000
~~3~~4. A single standard-tyred axle with a single large-tyred axle, single mega-tyred axle, or a twin-tyred axle	12,000
~~4~~5. Any other two or more axles	14,500

Table 6 – Maximum sum of mass on any two or more axles that together do not constitute a single tandem axle set, single tri-axle set or single quad-axle set, at the specified distances (including maximum gross mass)

Distance from the centre of the first axle to the centre of the last axle	**kg**
1.8m but less than 2.0m	15,500
2.0m but less than 2.5m	16,000
2.5m but less than 3.0m	17,500
3.0m but less than 3.3m	19,000
3.3m but less than 3.6m	20,000
3.6m but less than 4.0m	21,000
4.0m but less than 4.4m	22,000
4.4m but less than 4.5m	23,000
4.5m but less than 4.7m	23,500
4.7m but less than 5.0m	24,000
5.0m but less than 5.4m	25,000
5.4m but less than 5.5m	26,000
5.5m but less than 5.8m	26,500
5.8m but less than 6.0m	27,000
6.0m but less than 6.5m	28,000
6.5m but less than 7.0m	29,500
7.0m but less than 7.5m	31,000
7.5m but less than 8.0m	32,500
8.0m but less than 8.5m	34,000
8.5m but less than 9.0m	35,000
9.0m but less than 9.5m	36,000
9.5m but less than 10.0m	37,000
10.0m but less than 10.5m	38,000
10.5m but less than 11.0m	39,000
11.0m but less than 11.5m	40,000

11.5m but less than 12.0m	41,000
12.0m but less than 12.5m	42,000
12.5m but less than 13.0m	43,000
13.0m but less than 13.5m	44,000
13.5m but less than 14.0m	45,000
14.0m but less than 14.5m	46,000
14.5m but less than 15.0m	47,000
15.0m but less than 15.5m	48,000
15.5m but less than 16.0m	49,000
16.0m but less than 16.5m	50,000
16.5m but less than 17.0m	51,000
17.0m but less than 17.5m	52,000
17.5m but less than 18.0m	53,000
18.0m but less than 18.5m	54,000
18.5m but less than 19.0m	55,000
19.0m but less than 19.5m	56,000
19.5m but less than 20.0m	57,000
20.0m but less than 20.5m	58,000
20.5m but less than 21.0m	59,000
21.0m but less than 21.5m	60,000
21.5m but less than 22.0m	61,000
22.0m or more	62,000 or more

Part C – Maximum Axle Loadings for ~~Passenger Service~~ Specialist Vehicles	
Type of Axle	**kg**
1. Twin-tyred axle in any axle set:	~~8,800~~ 12,000
2. Two axles in a tandem axle set comprising:	
(a) Twin-tyred axle with a single large-tyred axle and a 60/40 load share	~~14,600~~ 16,000
(b) Twin-tyred axle with a single large-tyred axle and a 55/45 load share	~~16,000~~ 18,000
3. Two twin-tyred axles:	
(a) spaced less than 1.3m from the first axle to the last axle	17,000
(b) spaced 1.3m or more from the first axle to the last axle	18,000

Note: Part C limits only available by permit issued by an RCA, and under the existing Rule, are only available for passenger service vehicles (buses). It is proposed to expanded availability to include other specialist vehicles: passenger service vehicles (buses); concrete mixers; rubbish trucks; dump trucks; and ground-spread fertiliser trucks.