

**Monitoring, evaluation and review of the  
Vehicle Dimensions and Mass Rule**

*May 2010 – April 2011*

**PART A – SUMMARY REPORT**

*6 September 2011*

## Contents

<b>Executive summary</b> .....	<b>3</b>
<b>Background and purpose of this report</b> .....	<b>4</b>
<b>Applications</b> .....	<b>4</b>
<b>ECONOMIC BENEFITS</b> .....	<b>5</b>
Expected future benefits .....	8
Safety .....	9
<b>OPERATOR EXPERIENCE</b> .....	<b>9</b>
NZTA officer suggestions for improvements to over-length permit processing .....	10
NZTA officer suggestions for improvements to higher-mass permit processing .....	10
Barriers to uptake .....	11
Reasons for decline .....	12
Effect on truck and trailer manufacturers .....	12
Impact on RUC .....	12
Infrastructure investigations.....	12
<b>LOCAL GOVERNMENT ISSUES</b> .....	<b>13</b>
<b>Conclusions</b> .....	<b>14</b>
<b>Appendix 1: Report card 2010/11</b> .....	<b>16</b>

## Executive summary

- a) The Land Transport Rule, Vehicle Dimensions and Mass Amendment 2010, Rule 41001/5, came into effect on 1 May 2010. The rule provides for higher-mass (HM) and over-length (OL) permits, or a combination of both, for travel by heavy vehicles on state highways and/or local roads. There is also provision for increased length, as of right, for articulated vehicles, logging trucks, and truck and simple trailers for car and container cartage.
- b) Implementation of the rule as at 30 April 2011 was still in a very early phase. Just over half of the 1082 applications were either declined or pending, primarily because of the limited availability of routes with confirmed bridge capacity. The majority (67%) of the 501 approved permits have been for OL vehicles that do not rely on increased bridge capacity.
- c) The benefits are primarily the reductions in transport costs available from increased truck mass and/or length. The potential productivity gains are in the order of a 20% decrease in trips for the same freight task under HM permits and a 14% decrease in trips for OL permits. The benefits have been estimated from the distance travelled as indicated by road user charge (RUC) purchases. It is too early to gauge the expected safety and environmental impact benefits from reduced trips needed by high-productivity motor vehicles (HPMVs) to complete a given freight task.
- d) It is not unreasonable to conclude that benefit realisation in **year one** is in line with the expectations set by the Regulatory Impact Statement (RIS) preceding the rule change. This conclusion is based on assumed transport cost savings of \$3 million (mid-point of the benefit range) – note that approved applications have been in operation, on average, for only 120 days in the first year. Annualised transport cost reductions could therefore be in the order of \$9 million. The gross domestic product (GDP) gains are likely to be substantially higher than \$9 million as the transport cost savings flow through the economy. The GDP increase of \$10 million to \$25 million estimated in the RIS for **year two** of rule implementation therefore appears attainable, particularly as permit numbers and available routes increase.
- e) Key barriers to operator uptake of HM permits are largely as forecast in the RIS and include: network availability, increased RUC payments, uncertainty over proposed changes to RUC, and high infringement costs if permit conditions are breached.
- f) Combined local road and state highway route investigations in most regions were reported at the end of the first year. The bridge investment proposals now arising from this work will be critical to resolving route availability.
- g) Operators' experience of the NZ Transport Agency (NZTA) and local government permitting process has been mixed during this first year. Proceeding with rule implementation while processing systems were developed has allowed quick gains to be made by some operators in return for no capital investment by government. Suggested process improvements include the NZTA further developing standard operating procedures and case managing applications.
- h) Councils remain concerned about infrastructure costs. The NZTA's view is that minimal impacts on sealed pavements and bridges result from HPMVs compared with standard heavy vehicles completing the same freight task.

## Background and purpose of this report

1. Two documents comprise the *Monitoring, evaluation and review of the Vehicle Dimensions and Mass Rule* report:
  - *Part A – Summary report* (this document)
  - *Part B – Technical report*, providing further detailed discussion of methodology, analysis and findings.
2. The Land Transport Rule, Vehicle Dimensions and Mass Amendment 2010, Rule 41001/5 came into effect on 1 May 2010. The rule provides for higher-mass (HM) and over-length (OL) permits or a combination of both, for travel by heavy vehicles on state highways and/or local roads. There is also provision for increased length, as of right, for articulated vehicles, logging trucks, and truck and simple trailers for car and container cartage.
3. The purpose of this report is to evaluate actual and expected future benefits and review areas for improvement. A monitoring framework for annual review over the following two years is also required.
4. Stimpson & Co Limited were engaged in March 2011 to report on the first three of the following four key information areas listed in the Terms of Reference (see appendix 1 in *Part B – Technical report*):
  - a) economic benefits
  - b) operator experience
  - c) local government issues
  - d) infrastructure (subject to separate ongoing investigations by the NZ Transport Agency – NZTA – and only briefly discussed in this report).
5. The methodology supporting this report includes a survey of operators, road controlling authority (RCA) officers and central government staff. Permit application and road user charge (RUC) purchase data for approved permits were also analysed.
6. The project has been steered by a cross-agency group with membership from the NZTA, the Ministry of Transport, Local Government New Zealand and the New Zealand Road Transport Forum.

## Applications

7. In the first year of operation, there were 1082 applications, the majority being for HM permits. However, two-thirds (67%) of the 501 approved permits have been for OL vehicles using pro forma designs.
8. Implementation of the rule is still in a very early phase, with just over half of applications either declined or pending, primarily because of the limited availability of routes with confirmed bridge capacity. Approved applications have been in operation, on average, for only 120 days.
9. Online tools providing readily available management information on processing time and location of bottlenecks only came available six months after the rule started. Route availability maps came online in May 2011. Proceeding with rule implementation while

processing systems were developed allowed quick gains to be made by some operators in return for no capital investment by government. However, the large number of HM applications at the beginning of the year progressed more slowly and with greater difficulty than subsequent applications. The first year has therefore seen considerable process development. For example, 58% of the 372 applications made by August 2010 were yet to be approved or were declined. By March 2011, applications in progress had decreased to 23% of the total of 930 applications.

## ECONOMIC BENEFITS

10. The benefits are of the type broadly assessed using a conventional approach following the NZTA's *Economic evaluation manual* (EEM). This approach is focused on the cost savings to operators, although potential future safety and supply chain improvements such as reduced inventories are also recognised. Assessment of wider economic benefits that account for the dynamic and cascading impacts of these cost savings through the economy, resulting in gross domestic product (GDP) growth, are outside the scope of detailed investigation in this report.
11. The conclusions of the Pearson report 2007, summarised in the Regulatory Impact Statement for high-productivity motor vehicles (HPMVs) (RIS), outline the relationship between transport cost savings and potential GDP gains.<sup>1</sup> Transport cost savings in the order of \$100 million to \$200 million, assuming widespread introduction of heavy vehicle permits, were estimated to result in GDP gains in the order of \$250 million to \$500 million. GDP gains were therefore estimated at around 2.5 times operator cost savings.
12. Indicative estimates of economic benefits in terms of operator cost savings have been calculated in this report as follows -

*RUC kilometres purchased for each permitted vehicle*

**multiplied by**

*Potential percentage productivity gain for each permitted vehicle*

**multiplied by**

*Vehicle operating cost per kilometre saved to complete the same freight task*

**multiplied by**

*Assumed percentage of RUC kilometres for which gains are actually achieved.*

<sup>1</sup> Regulatory Impact Statement, paragraphs 26 and 29.

13. Matching approved applications with RUC kilometres purchased indicates that a total of 19 million kilometres of road user charges have been purchased by trucks<sup>2</sup> with HPMV permits, of which 75% are for OL vehicles. Trailer kilometres purchased totalled 11.5 million kilometres. Benefits for HM permits have been calculated from truck kilometres. Truck kilometres in the OL category were almost double the trailer kilometres, indicating that permitted trucks were also travelling significant non-HPMV distances. Benefits for OL permits have been calculated from 100% of trailer kilometres for rigid truck and trailer combinations and 50% of trailer kilometres for B-trains with two semi-trailers per combination.
14. The *potential percentage productivity gains*, in terms of reduced trips to complete the same freight task, are estimated to be about 20% for HM. OL permits provide wide-ranging levels of benefit from combinations of both increased payload mass and volume. A 14% average productivity gain has been assumed for OL permits. The benefits are primarily the reductions in operator costs available from increased truck mass and/or length. Case studies of the gains available to operators across a range of transport operations are contained in *Part B – Technical report*. It is too early to gauge the expected safety and environmental impact benefits from reduced trips needed to complete a given freight task.
15. Each kilometre saved in completing a fixed freight task is assumed to reduce costs by \$3.06 per kilometre<sup>3</sup>. This cost includes vehicle operating costs, depreciation, labour and business overheads. The road user charge (RUC) component of this cost saved per kilometre (normally excluded from EEM analysis) is included as a proxy for infrastructure wear and tear saved due to reduced travel for the same freight task. These benefits are net of increased vehicle operating costs and RUC charges for the heavier operations under HM permits.
16. Table 1 shows indicative benefits estimated in a range from \$1.5 million to \$4.6 million for the average of 120 days of permit operation. These cost saving benefits accrue to the supply chain as a whole. The extent to which particular parties, such as transport operators, capture the gains is not known.

---

<sup>2</sup> By comparison, heavy trucks as defined as RUC classes 14 & 19 purchased around 755 million kilometres of RUC in the full year from July 2009 to June 2010.

<sup>3</sup> As a proxy for vehicle operating, travel time and fixed costs of travel calculated using EEM procedures, total costs per kilometre of travel by HPMV vehicles were sourced from the report *Review of road freight costs in New Zealand and comparable Australian states* (Bob Pearson 2007). Costs in this report were updated to 2010 using a 3% adjustment indice.

**Table 1: Summary of low to high range estimate of potential HPMV benefit, May 2010 to April 2011**

Permit type	Low range estimate (Permitted gain achieved for 25% of RUC kilometres)	High range estimate (Permitted gain achieved for 75% of RUC kilometres)
<b>a) Operator efficiency gains</b>		
Higher-mass (HM)	\$0.75m	\$2.24m
Over-length (OL)	\$0.86m	\$2.58m
Both	\$0.15m	\$0.44m
As-of-right length increases	\$0.20m	\$0.62m
Gross benefits net of increased Vehicle Operating Costs for HM vehicles	\$1.95m	\$5.90m
<b>Benefits net of increased RUC payments for HM vehicles</b>	<b>\$1.56m</b>	<b>\$4.68m</b>
<b>b) Other costs and benefits</b>		
<ul style="list-style-type: none"> <li>• Safety impacts</li> </ul>	<ul style="list-style-type: none"> <li>• Reduced exposure from reduced travel for same freight task, balanced by any change in safety performance of HPMVs</li> <li>• Too early to make conclusions</li> </ul>	
<ul style="list-style-type: none"> <li>• Infrastructure impacts</li> </ul>	<ul style="list-style-type: none"> <li>• No capital investment for HPMVs made yet</li> <li>• RUC payments assumed as a conservative proxy for wear and tear saved due to reduced travel for same freight task</li> </ul>	
<ul style="list-style-type: none"> <li>• Administration and investigation costs</li> </ul>	<ul style="list-style-type: none"> <li>• NZTA administration: approximately \$1.4 million in year one</li> <li>• Route investigation costs of approximately \$3 million in year one</li> </ul>	

17. The RIS supporting the rule estimated GDP benefits ranging from \$10 million to \$25 million in **year two** and increasing to a range from \$250 million to \$500 million by **year ten** based on productivity gains to operators of 10% to 20%.<sup>4</sup>
18. It is not unreasonable to conclude that benefit realisation in **year one** is in line with the expectations set by the RIS preceding the rule change. This conclusion is based on assumed transport cost savings of \$3 million (mid-point of the benefit range) for the average of 120 days for which permits have been in operation in the first year. Annualised transport cost reductions could therefore be in the order of \$9 million. The GDP gains are likely to be substantially higher than \$9 million as the transport cost savings flow through the economy. The GDP increase of \$10 million to \$25 million estimated in the RIS for **year two** of rule implementation therefore appears attainable, particularly as permit numbers and available routes increase.
19. Uptake of HPMV permits and associated benefits in 2010/11 can be seen in the context of economic conditions for the transport industry prevailing over this period. RUC distance purchased for all trucks with four or more axles (RUC classes 14 & 19 for both standard heavy trucks and HPMVs), for the three years from 2007/08 to 2010/11, shows growth of 3%, 4% and 9% respectively. This trend of increased travel demand for heavy trucks contrasts with flat growth in total kilometres purchased across all RUC classes. The strong (9%) growth in travel by all heavy trucks in the first year of HPMV uptake

<sup>4</sup> Regulatory Impact Statement, annex C and paragraph 59.

suggests underlying demand conditions in the transport industry that might encourage HPMV uptake. On the other hand, operator cost savings could be sought even more vigorously during times of low demand for transport services.

20. Other costs and benefits impacting on the net benefits of the rule include safety, noise and vibration, and the government administration costs and operator compliance costs. The RIS estimated administration costs in year one at almost \$1 million and then declining. Actual NZTA administrative costs have been about \$1.4 million, while adding the costs of route investigation work with local government brings the total to around \$3 million.
21. Infrastructure **investment** costs to achieve these benefits have been nil, as there has been no capital expenditure to date on either bridges or pavements for HPMV purposes. The impact of HPMVs on bridge and pavement maintenance costs through accelerated deterioration is subject to separate ongoing work. Modeling work to date and case studies of HPMV impacts on **pavements** suggests low maintenance cost increases can be expected on most sealed roads.<sup>5</sup> Unsealed roads, or brittle or soft sealed roads, as may be more often found in local road networks, may indicate maintenance cost increases of a level to be considered in HPMV route approval decisions. NZTA asset managers have also commissioned research on HPMV cost impacts on **structures**. Early conclusions from this work are that cost impacts on structures are also likely to be low. The opinion of NZTA asset managers being tested by these other infrastructure investigations is that HPMV loads on state highway bridges and pavements are not likely to be distinguishable compared with the increased number of trips required to complete the same freight task using standard heavy vehicles. This work on infrastructure impacts requires long-term observation and modeling. In the case of pavements, the earliest results are not expected before the end of the current three-year monitoring period in 2012/13. No specific monitoring of HPMV impacts on structures is proposed beyond existing asset monitoring programmes.

### Expected future benefits

22. The rate of permit uptake will continue to be influenced by infrastructure and operator constraints. The RIS noted that benefit realisation would depend on the willingness of RCAs to permit routes, operator willingness and the time taken to upgrade routes. The total New Zealand heavy fleet of truck and trailer combinations with five or more axles has been estimated at 18,000 vehicles. Approximately 12,000 have been estimated to be HM capable, of which 5000 might take up permits if routes were available. 15,000 vehicles have been estimated as OL capable, of which 5000 might take up permits. With a total of 501 approved permits of all kinds in the period to April 2010, the total market for HPMVs has only been penetrated to a limited extent to date.
23. The RIS supporting the rule change estimated savings **to operators** at \$100 million to \$200 million phasing in over five years. The estimated savings to operators for the first year (to the end of April 2011) are estimated in a range from \$1.5 million to \$4.6 million for an average of 120 days for each permit. Benefit realisation from the rule is likely to have significant further scope.

---

<sup>5</sup> Paper by Adèle Jones and Ewan Hunter, Opus International Consultants Ltd, 2011, *The Evaluation of the effects of increased heavy vehicle loading on pavement maintenance costs*.

## Safety

24. The rule requires HPMVs to comply with minimum static roll threshold (SRT) requirements that reduce the risk of roll-over (the cause of around one-third of crashes). The SRT requirements are not necessarily required for standard trucks and represent an expected safety gain from HPMVs.
25. It is still too early to draw clear conclusions from safety performance measures. To the end of January 2011, a single serious crash involving an HPMV had been recorded on the Crash Analysis System (CAS), although the driver was not at fault. A second crash is understood to have occurred, but is not yet recorded on the CAS. These (not at fault) crashes have arisen from 19 million HPMV truck kilometres travelled over the complete year to the end of April 2011. Comparative benchmarks for heavy trucks in general over the same period are 1 fatal crash per 44 million kilometres, 1 serious crash per 28 million kilometres and 1 minor crash per 8 million kilometres.
26. Safety gains also arise from the reduced exposure to crashes that result from the reduced truck kilometres otherwise needed in the absence of the rule change to complete the same freight task. Previous work for the 2007 trials assumed that one fatality at a cost to society of \$3.7 million was likely to be reduced for every 33 million kilometres of travel saved. Travel savings to date have been in the order of 1–2 million kilometres, so these safety gains from reduced exposure remain small to date.

## OPERATOR EXPERIENCE

27. This is the first year of HPMV implementation. Operators' experiences have been in the context of very early stages of development of NZTA and RCA permitting processes. In many cases, route investigation work has not been available until the end of the year. There were also a large number of HM applications early in the first year. This initial rush of applications created processing challenges. In comparison, subsequent applications are thought to have had an easier passage and higher levels of customer service. OL applications in contrast showed a more steady growth in application numbers over the period.
28. Table 2 summarises the operator experience for both OL and HM permit processing. There was a generally positive view from operators of the NZTA's performance on OL permits using pro forma designs. There was a comparatively poor view of the NZTA's performance on non-standard permits for OL and HM permits. While HM permits involve a more onerous process and are more likely to be declined because of bridge constraints, there is still significant room for improvement in the permitting processes. Generally, operator respondents found council staff and processes much harder to deal with.
29. Suggestions from operators and industry to reduce waiting times and improve customer service include:
  - increased staff training, with a focus on developing industry understanding
  - increased feedback to operators on application status and route availability

- focus on reducing the delays in RCA decision making
- focus on strategically important routes and industry sectors
- investigation into use of Vehicle Axle Index (VAI) and Vehicle Gross Index (VGI) as the basis of establishing bridge capabilities for vehicles.

**Table 2: Summary of operator opinion on NZTA and RCA performance**

Question / issue		Web survey response	
Key: ✖✖✖ = very poor, – = neutral, ✓✓✓ = very good			
1.	<b>Operator opinion on NZTA performance on OL permits</b>		
	a) Reasonableness of time taken	✓	Mostly reasonable for pro forma applications only. Poor opinion of process for non-standard applications. ✖
	b) Reasonableness of decisions	✓	
	c) Reasonableness of customer service	✓	
<i>OL permit process, particularly for pro forma design, is less onerous than HM applications, and the central processing in Palmerston North appears to be working well from a customer perspective.</i>			
2.	<b>Operator opinion on NZTA performance on HM permits</b>		
	d) Reasonableness of time taken	✖	Mostly unreasonable
	e) Reasonableness of decisions	✓/✖	Mixed
	f) Reasonableness of customer service	✓/✖	Mixed
<i>A mixed start for HM permitting, which is a more onerous process and less likely to be successful because of bridge restrictions. Generally, respondents appreciate the effort and capability of NZTA staff, but there is room for significant improvement.</i>			
3.	<b>Operator opinion on council performance for HM permits</b>		
	g) Reasonableness of time taken	✖	Mostly unreasonable
	h) Reasonableness of decisions	✓/✖	Mixed
	i) Reasonableness of customer service	–/✓	Neutral to positive
<i>Generally, respondents find council staff and processes much harder to deal with than NZTA processes.</i>			

### **NZTA officer suggestions for improvements to OL permit processing**

30. The pro forma design templates appear to have been very successful. The key suggestion to improve OL permit processing is to develop standard operating procedures (SOPs) to assure all stakeholders that adequate processes are in place for the auditing of applicant vehicle information, operator suitability checks and operational compliance. Case management of applications might also be considered as part of these quality management initiatives.
31. Operator opinion of the quality of non-standard OL permit processes, based on limited data, is very poor. The reasons for, and solutions to, these negative perceptions need to be further investigated.

### **NZTA officer suggestions for improvements to HM permit processing**

32. Processing systems have developed considerably over the first year, with an applications database tool now measuring processing times and identifying the location of delays.

33. The process remains complex however, with multiple workstreams (route, vehicle and operator checks) and approval responsibilities spread across NZTA regions, NZTA contractors, NZTA head office and RCAs. It is recommended that the NZTA consider the case for further streamlining these processes.<sup>6</sup>
34. As was also the case for OL processing, the key suggestion to improve the processing of HM permits is to develop SOPs to assure all stakeholders that adequate processes are in place for:
- auditing of applicant vehicle information
  - operator suitability checks in terms of their compliance and safety track record (this is a developing aspect of permitting, expected to be based on the Operator Rating System, for which a two year implementation programme starts in 2011)
  - operational compliance after permit issue
  - consistency of permit conditions between regions
  - consistency of approach with regard to separate or joint NZTA–RCA permit processing and approvals
  - ensuring a clear and streamlined process between the NZTA and RCAs.
35. Other concerns include:
- resourcing and capabilities of RCAs
  - staff training and development
  - improvements to the supporting information systems, including use of unique identifiers and more rigorous data entry controls
  - more clarity on route availability
  - improved communications on the low level of expected infrastructure impact.

### Barriers to uptake

36. There appear to be few, if any, barriers to the uptake of pro forma **OL** permits, although streamlining of the permitting process for non-standard OL applications should be considered.
37. The most commonly mentioned barriers to uptake of permits for **HM** in approximate order are:
- *network availability* arising from restricted bridge capacities – infrastructure investigations and plans to resolve this issue are discussed below
  - *road user charges* – both in terms of the significant increases in RUC payments as weight increases and the uncertainties arising from the current government review of RUC
  - *enforcement issues* arising from high infringement costs if an operator is in breach of axle loading limits, and specific permit conditions such as speed and tyre pressures. The extent of fines for breach of permit is also considered potentially out of proportion to the offence compared with standard heavy operation. This is because even a minor breach can result in the permit being invalidated and fines calculated for every tonne above the standard 44 tonne limit. A new NZTA policy providing **axle weight flexibility**, traded off against reduced overall mass, is well advanced and likely to go some way to resolving this issue. It is recommended that the NZTA consider the nature of conditions placed on permits.

---

<sup>6</sup> Note that the NZTA is already investigating how it can streamline a number of its functions.

### **Reasons for decline**

38. Only 3% of OL permit applications were declined, reflecting the less complex process of securing these approvals. In comparison, almost half of HM permit applications were declined – primarily (53%) because of bridge restrictions.

### **Effect on truck and trailer manufacturers**

39. Truck and trailer manufacturers leading up to the rule's introduction were understood to be experiencing a serious business downturn due to uncertainty over the proposed rule's final provisions. Analysis of new trailer registrations as one indicator of activity in the two years from May 2009 to April 2011 shows that full trailer and semi and simple trailer registrations increased over these two years from 301 to 440 (46% increase) and from 232 to 308 (33% increase) respectively.

### **Impact on RUC**

40. In general, HM permits are expected to travel fewer kilometres to complete the same freight task but pay more RUC on the reduced kilometres. The net overall impact based on the example of an 8-axle rigid truck and trailer is a 9% increase in RUC payment.
41. Longer vehicles in comparison are more typically constrained by volume rather than mass. Under an OL permit, these vehicles receive an efficiency gain of up to 15%. This would be achieved, in the case of volume-constrained vehicles, without payment of additional RUC.
42. While the net impacts on RUC of both OL and HM permits are not expected to be material, it is recommended that the NZTA track the proportion of total RUC receipts from the heavier end of the range of RUC classes for both trucks and trailers.

### **Infrastructure investigations**

43. In May 2010, the NZTA Board approved provision of \$14.5m in each of the 2010/11 and 2011/12 years for 100% grant funding of route investigations and maintenance and development – if an appropriate investment case can be established. For the period from May 2010 to the end of March 2011, a total of \$2.6 million had been invested in route investigation only.
44. Most regions have run a collaborative process facilitated by NZTA regional officers and including RCAs. The overall opinion on these investigation processes appears positive. Investigation results have typically become available towards the end of the year under review.
45. The major concern expressed in relation to infrastructure investigations relates to the lack of clarity over the process for, and availability of, infrastructure upgrade funds. The existence of \$29 million of route investigation and development funding does not always seem to have been clearly understood. It is recommended that the NZTA ensure the investment plans, now being developed in response to the recently completed route investigation work, clarify the availability of 100% grant funding in the current National Land Transport Programme (NLTP) for RCA route development.

## LOCAL GOVERNMENT ISSUES

46. Key concerns from local government were the infrastructure cost impacts on ratepayers and the fair allocation of costs to councils relative to benefits received. As a result, some councils are reluctant to engage with HPMV implementation. In these situations, while many officers may accept the technical arguments supporting the net benefits of the regime, elected members remain very concerned over the potential cost impacts on ratepayers. A number of councils have retained decision-making authority on permits as a council decision with no delegated authority to officers, which slows processing down.
47. Also adding to the ratepayer cost concern is the low acceptance or understanding in some RCAs of the potential benefits to councils and businesses. The proposition of reduced travel for the district's freight task and minimal increase in maintenance costs compared with normal heavy trucks are by no means fully accepted.
48. The arrangement for potential infrastructure development funding remains uncertain. Lack of clarity on this issue has probably fuelled the lack of engagement by many councils.
49. The instances of low engagement are however contrasted with a number of councils that have a supportive policy towards HPMVs. In these cases, officers have been given a strong mandate to implement HPMV routes.
50. Table 3 summarises RCAs' own perceptions of the overall permit process effectiveness. While this is based on limited data, the results indicate an overall higher opinion of the process than displayed by operators.

**Table 3: Summary of RCAs' perceptions of the permit process effectiveness**

Question	Summary of responses	
Key: <b>x x x</b> = very poor, <b>-</b> = neutral, <b>✓✓✓</b> = very good		
Overall perceptions of effectiveness of the HPMV permitting process	<b>x/✓</b>	From limited data – a balance of positive views. The NZTA communicating well, but some hear mixed messages. Technical expertise and experience required.
Rating of infrastructure investigation process	<b>x-✓</b>	From limited data, a full range of views from very ineffective to very effective with a neutral average view. Still in initial stages, regional working slows process down, consultants reluctant to accept work for resources on offer.
<b>Benefits</b>		
For community	<b>x-</b>	Low to neutral
For business	<b>x-✓</b>	Poor to high
For council	<b>x x</b>	Low

## Conclusions

51. Table 4 summarises key conclusions and recommendations, separately identified for the HM permitting process and the OL permitting process.
52. The uptake of benefits at the end of year one was at a very early stage, as permits on average had been operating for only 120 days. Material benefits have begun to flow however, and benefit realisation is on track to achieve the gains estimated in the RIS accompanying the HPMV rule change for year two of implementation. The future prospects for benefits remain good if constraints such as bridge availability, RUC uncertainty and enforcement issues can be overcome.
53. Route availability remains a key constraint for uptake of HM benefits. Critical to the resolution of route availability will be the NZTA working with RCAs to lift their engagement on providing local roads and processing local permit applications.
54. NZTA processes and capabilities have developed considerably over the first year of the HPMV rule implementation. In addition to the application processing tools and route information now available, it is recommended that the NZTA consider further developing SOPs for permit application processing and compliance auditing.

Table 4: Summary of conclusions and recommendations

	Economic benefits	Operator experience	Local government issues		
<b>Terms of reference requirements</b>	<i>To determine whether weight and length net benefits have been realised, including operator gains</i>	<i>To consider operator issues for permitting process, barriers to uptake, safety, compliance and RUC. Includes issues for RCAs and the NZTA.</i>	<i>To understand permitting process and infrastructure cost issues along with levels of participation.</i>		
<b>Summary of conclusions and recommendations for each permit type and process</b>					
Permits for higher mass	<b>Conclusions</b> <ul style="list-style-type: none"> <li>Implementation is still largely in the investment stage, as permits have been held for only 120 days on average.</li> <li>Significant further scope for benefit realisation.</li> </ul> <b>Recommendation</b> <ul style="list-style-type: none"> <li>Focus on investment plans in response to route investigation work recently completed.</li> </ul>	<b>Conclusions</b> <ul style="list-style-type: none"> <li>NZTA processes have been in state of development as rule has rolled out, but this has allowed many quick wins.</li> <li>Mixed operator opinion on quality of process.</li> <li>Route availability is major barrier to uptake along with RUC uncertainties and enforcement issues.</li> </ul> <b>Recommendations</b> <ul style="list-style-type: none"> <li>The NZTA should develop SOPs for permitting.</li> <li>Ongoing common process streamlining is already under way. Consider building further case management of applications through the multiple permitting steps (vehicle, route, operator and RCA).</li> </ul>	<b>Conclusions</b> <ul style="list-style-type: none"> <li>Local route availability is a key barrier to uptake.</li> <li>RCAs have cost and funding concerns and are not all fully engaged.</li> <li>Operators are finding RCAs more difficult than the NZTA to deal with.</li> </ul> <b>Recommendation</b> <ul style="list-style-type: none"> <li>Consider further NZTA engagement of RCAs on cost issues, capital funding availability and permit process improvement.</li> </ul>		
Permits for higher mass & over length					
a) Over length applications – pro forma				<b>Conclusion</b> <ul style="list-style-type: none"> <li>Generally a good operator experience. Processes working well.</li> </ul> <b>Recommendation</b> <ul style="list-style-type: none"> <li>Formalise standard operating procedures</li> </ul>	OL applications are not generally a concern to RCAs.
b) Over length applications – non pro forma				<b>Conclusion</b> <ul style="list-style-type: none"> <li>Poor operator experience.</li> </ul> <b>Recommendation</b> <ul style="list-style-type: none"> <li>Process improvement needed. Consider case management.</li> </ul>	
<b>As-of-right length increases</b>	<b>Conclusion</b> <p>Evidence that average trailer length registered is increasing and benefits to car and container carriers.</p>		Not an issue for RCAs		
General conclusions and recommendations for all permit types	<ul style="list-style-type: none"> <li>Benefits from all permit types above may range from \$1.5m to \$4.6m.</li> <li>Benefit realisation is on track to achieve the gains estimated in the RIS accompanying the HPMV rule change for year two of implementation.</li> </ul>	<ul style="list-style-type: none"> <li>Consider SOPs and case management of applications.</li> <li>Too early to make conclusions on safety, although benchmarks for future assessment are recommended.</li> </ul>			

## Appendix 1: Report card 2010/11

<b>Economic benefits of HPMV implementation</b>				
It is still too early to draw clear conclusions on economic benefits in this first year when permits have been operating for an average of only 120 days. These may range from \$1 million to \$5 million as follows:				
Permit type	Approved permit numbers	Truck & trailer combinations. km travelled (million)	Range of benefit estimates	
			Low range	High range
			Permitted gain achieved for -	
			25% of RUC kms	75% of RUC kms
Higher-mass (HM)	148	3.8	\$0.76m	\$2.27m
Over-length (OL)	338	3.7	\$0.86m	\$2.58m
Both	15	0.8	\$0.12m	\$0.36m
As-of-right length increases	–	?	\$0.20m	\$0.61m
TOTAL	501	8.3	<b>Benefits net of increased Vehicle Operating Costs for HM vehicles</b>	
			\$1.96m	\$5.96m
			<b>Benefits net of increased RUC for HM vehicles</b>	
			<b>\$1.56m</b>	<b>\$4.66m</b>
<b>Safety</b>				
It is still too early to draw clear conclusions from safety performance measures which indicate a single serious HPMV crash during the year arising from 19 million HPMV truck kilometres travelled. Comparative benchmarks for heavy trucks in general over the same period are 1 fatal crash per 44 million kilometres, 1 serious crash per 28 million kilometres and 148 minor crashes per 8 million kilometres.				
<b>Operator experience</b>				
<b>Operator opinion of NZTA performance on OL permits</b>				
• Reasonableness of time taken	✓	Mostly reasonable for pro forma applications only. Poor opinion of process for non-standard applications. ✘		
• Reasonableness of decisions	✓			
• Reasonableness of customer service	✓			
<i>OL permit process, particularly for pro forma design, is less onerous than HM applications, and the central processing in Palmerston North appears to be working well from a customer perspective.</i>				
<b>Operator opinion of NZTA performance on HM permits</b>				
• Reasonableness of time taken	✘	• Mostly unreasonable		
• Reasonableness of decisions	✓/✘	• Mixed		
• Reasonableness of customer service	✓/✘	• Mixed		
<i>A mixed start for HM permitting, which is a more onerous process and less likely to be successful because of bridge restrictions. Generally, respondents appreciate the effort and capability of NZTA staff, but there is room for significant improvement.</i>				
<b>Operator opinion of council performance for HM permits</b>				
• Reasonableness of time taken	✘	• Mostly unreasonable		
• Reasonableness of decisions	✓/✘	• Mixed		
• Reasonableness of customer service	–/✓	• Neutral to positive		
<i>Generally, respondents find council staff and processes much harder to deal with than NZTA processes.</i>				
<b>Local government issues</b>				
RCA opinion of their own overall perceptions of effectiveness	✘/✓	<i>From limited data – a balance of positive views. The NZTA communicating well, but some hear mixed messages. Technical expertise and experience required.</i>		
<i>Key themes were concerns over cost impacts on ratepayers and the fair allocation of costs to councils relative to benefits received.</i>				
<b>Infrastructure issues and costs</b>				
<i>Subject to separate ongoing investigations. The NZTA view is that differences in maintenance costs for the same freight task will not be detectable between standard heavy and HPMV vehicles. Infrastructure</i>				

*investment plans are under development in 2011.*